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THE 1955 SAVINGS SURVEY

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FOREWORD

Sample surveys of personal savings were conducted by the Institute of Statistics in 1952,1953 *and* 1954 *and the results, as they have become available, have been published in this* BULLETIN. *The plans for each of these Surveys were discussed with the Central Statistical Office, to make sure that the results would be as comparable as possible with, and might even be of help in compiling, the official estimates of national income. The fieldwork and the coding and tabulation of the results of the Surveys have been done by the Government Social Survey.*

In 1955 *a further sample survey of personal savings was conducted by the Central Statistical Office, with the help again of the Government Social Survey. The plans for this Survey, which were drawn up in consultation with members of the Institute of Statistics, benefited a great deal from the experience gained from the earlier Surveys. The whole series of Surveys has, indeed, been a happy instance of friendly and mutually beneficial collaboration between the two organisations; and it is difficult to say exactly how much was contributed by each of the many people who have collaborated on these Surveys at different times.*

The following report sets out the main results of the 1955 *Savings Survey and compares them with the corresponding results of the earlier Surveys. It summarises, in fact, the main results that have been accumulated from all the Surveys to date. Further detailed analyses of the* 1955 *Survey are being undertaken by the Institute of Statistics and the results will be presented as soon as they are available.*

This report is arranged as follows. Section I contains a brief description of the methods used in the 1955 *Survey. Section II compares the main results obtained from the three parts of the* 1955 *sample, which were designed to test the effects of interviewing different numbers of people at any one address. Section III discusses the estimates of personal income from each of the surveys. Section IV sets out the estimates of liquid asset holdings and compares them with national estimates. Details of the three main types of savings are given in Section V and estimates of personal savings as a whole in Section VI. Section VII shows the distribution of savings by type and size as well as the association between savings and (i) the level of income and (ii) the type of occupation. Finally, the main conclusions are summarised in Section VIII.*

I. *Methods Used in the* 1955 *Survey*

The fieldwork of this Survey was undertaken in June and July 1955. The intention had been to undertake it in April and May and to collect information covering the financial year 1954/5, but it was postponed on account of the General Election. The methods used in selecting the sample of people to be interviewed were similar to those used in the previous Savings Surveys, undertaken by the Institute of Statistics.[1] The sample was selected in two stages: in the first stage, 99 areas—electoral wards in towns, and administrative districts in rural regions—were selected from the main regions of Great Britain, stratified by urbanisation (conurbation, urban or rural) and also, in England and Wales, by the proportion of jurors in the area. The probability of any given area being chosen was proportional to its population.[2] The second stage consisted in the random selection of approximately 30 addresses or individuals in each of the selected areas.

The impression had been gained from previous Surveys that all the information obtained was not entirely accurate. It was thought that the accuracy of some of the details might have been influenced by the fact that husbands and wives and other adults in the households were all expected to give information. Some of them might have felt nervous of the possibility of information reaching other members of the household, even though they knew that all the information would be treated as strictly confidential. The fact that information was requested from all the principal members of each household may also have reduced the proportion of households which, as a whole, were willing to co-operate.

To test whether the accuracy of the information might be affected by considerations of this kind, the sample was divided into three parts. In Part A, which contained 1,100 addresses, all adults in each household and all households at each address (up to a maximum of three at any one address) were asked to give information.

Part B, which was confined to England and Wales, consisted of a sample of 1,350 individuals. Only the named individual and his (or her) wife (or husband) were asked for information about their own and their children's affairs; but, if the named individual were the head of a household containing any person between the ages of 18 and 21, this person was also interviewed

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[1] General descriptions of the methods and results of the 1952 Survey may be found in H. F. Lydall's *British Incomes and Savings* (Blackwell 1955). Descriptions and results of the 1953 and 1954 Surveys were given in the following articles which appear in earlier numbers of this BULLETIN.

T. P. Hill, L. R. Klein and K. H. Straw, 'The Savings Survey 1953: Response Rates and Reliability of Data', Vol. 17, No. 1, February 1955.

T. P. Hill, 'Incomes, Savings and Net Worth: The Savings Surveys of 1952–54,' Vol. 17, No. 2, May 1955.

L. R. Klein, 'Patterns of Savings: The Surveys of 1953 and 1954', Vol. 17, No. 2, May 1955.

K. H. Straw, 'The Savings Surveys and Official Sources: A Reconciliation of Estimates of Personal Income', Vol. 17, No. 3, August 1955.

L. R. Klein and P. Vandome, 'Sampling Errors in the Savings Surveys', Vol. 19, No. 1, February, 1957.

[2] The same areas were used as in 1954, both for convenience and to eliminate the effects of differences between areas on the estimates of changes between 1954 and 1955.

(people of this age, not being on the Electoral Registers, would otherwise have had no chance of being included in the sample). Married couples, in this part of the sample, had double the chance of inclusion of single persons and the results were reweighted to allow for this.

In Part C, which consisted of 750 individuals, only the named individual was interviewed and was asked to give information only about his or her own affairs; but women with children under 18 were also asked questions concerning the child's affairs.

Information was thus requested from all income units at each address in Part A,[1] from only one income unit at each address in Part B, and from only one person at each address in Part C.

The sample of addresses in Scotland in Part A was drawn from the Valuation Rolls. The samples of addresses in England and Wales in Part A, and of all individuals in Parts B and C, were drawn from the Electoral Registers. To increase the representation of the higher income groups, addresses containing jurors in the Electoral Registers were given five times the chance of inclusion in Parts A and B of those not containing a juror; and addresses in Scotland with higher rateable values than £35 were given five times the chance of inclusion in Part A of those with lower rateable values.[2] These divisions are referred to below as the *upper* and *lower strata* of the samples. All the results for Parts A and B given in this report have been reweighted to allow for such differences in the chances of selection. The individuals in Part C all had the same chance of selection.

Parts A and B formed the main parts of the Survey and Sections III to VII of this report present the detailed results for Parts A and B combined. Part C was intended primarily as an experiment to find out, for example, whether husbands (or wives) might be inclined to give different information if their wives (or husbands) were also interviewed. The next Section contains some comparisons between the three parts of the sample, of which further analyses are being undertaken.

II. *Comparison of Three Parts of the Sample*

The basic unit in Parts A and B of the sample was the income unit, i.e. married couples or single persons over 18. In Part C the basic unit was a single individual.

TABLE I

Response rates of income units in different parts of the sample

	Upper stratum		*Lower stratum*		*Upper and lower strata combined*	
	Numbers approached	*% responding*	*Numbers approached*	*% responding*	*Numbers approached*	*% responding*
Part A	625	61.1	732	67.5	1,357	66.6
Part B	649	66.4	864	76.6	1,513	74.3
Part C	—	—	—	—	750	71.1

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[1] Except that not more than three households were approached at any one address.

[2] In the Scottish Electoral Registers, no indication is given of whether a person is a juror or not.

If a person's willingness to co-operate were reduced by the knowledge that other people in the same income unit were being asked for information, Part C of the sample would be expected to show a higher response rate than Part B; if an income unit's willingness to co-operate were reduced by the knowledge that other income units in the same household were being asked for information, Part A would be expected to show a lower response rate than Part B. Table I shows the separate response rates for each of the three main parts of the sample and for the upper and lower strata of Parts A and B. The figures for Part A, shown here, are confined to England and Wales as Part B did not cover Scotland. The figures for Part C, on the other hand, cover Great Britain.

The proportion of income units which responded was higher in Part B than in Part A, within each stratum and in the two strata combined. The differences between the proportions responding in different parts of the sample are compared with their sampling errors in Table II. The standard error of the differences between two response rates was calculated from the formula:

TABLE II

Differences in response rates compared with their sampling errors

Comparison between:	$\frac{\mid p_1 - p_2 \mid}{\sigma}$
Part A and Part B	4.52†
Part B and Part C	1.62
Upper stratum A and Lower stratum A	2.30*
Upper stratum B and Lower stratum B	4.74†
Upper stratum A and Upper stratum B	1.85
Lower stratum A and Lower stratum B	4.45†

* Indicates significance at the 5 per cent probability level.
† Indicates significance at the 1 per cent probability level.

$$\sigma = \sqrt{p_0 q_0 \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}$$

where $$p_0 = \frac{n_1 p_1 + n_2 p_2}{n_1 + n_2}, \quad q_0 = 1 - p_0,$$

p_1 and p_2 are the response rates and n_1 and n_2 are the numbers approached in the two parts of the sample. A difference greater than twice its standard error is significant at the 5 per cent probability level; a difference greater than 2½ times its standard error is significant at the 1 per cent probability level.

The difference between the response rate in Part A and the response rate in Part B is significant at the 1 per cent level, most of the difference being contributed by the lower strata. The result of asking not more than one income unit at each address for information seems to lead to an appreciable increase in the proportion of income units co-operating.

The fact that the response rate is lower in Part C than in Part B is against expectation but the difference is not significant at the 5 per cent level. There is, however, no positive evidence that the response rate is increased by interviewing only one person at each address. Whether the accuracy of the information is affected is another matter which is discussed below.

The response rates of the upper strata of Parts A and B, particularly of Part B, are significantly lower than those of the lower strata. People in the higher income groups are less willing to co-operate than people in the lower income groups and this has important effects on the results, as we shall see later.

Table III shows the average values of gross income and of the main types of savings in each of the three parts of the sample. Rough estimates of the standard errors of some of the averages in Parts A and B, based on the results of the 1954 Survey, are also shown. Standard errors from the 1955 Survey are not yet available.

TABLE III
Average Incomes and Savings

	Part A *£ per income unit*	*Part B* *£ per income unit*	*Part C* *£ per person*	*Approximate standard errors of the averages in Parts A or B* *£*
Gross income	523.0	496.0	330.0	19.6
Contractual savings ...	21.0	20.0	15.1	2.2
Change in liquid assets...	−8.0	−3.8	−0.5	N.A.
'Miscellaneous' savings...	−4.6	−5.9	−15.7	N.A.
Total savings	8.2	9.6	−0.3	4.4
Holdings of liquid assets	242.6	267.0	153.4	47.2

Parts A and B, which are directly comparable, show very similar results except for the estimates of the change in liquid assets. In Part C, which provided figures for separate individuals, the averages (whether positive or negative) must be expected to be smaller than in Parts A or B. This is true of most of the figures but, as the total number of individuals in Part C was only 750, the sampling errors for this part, particularly in a figure which is the sum of the differences in several large items, must be fairly large.

National estimates based on the averages found in each part of the sample are given in Table IV, together with independent national estimates.[1] Approximate standard errors of some of the estimates from Parts A and B (which have similar sampling errors) are shown in brackets.

The estimates of gross income, contractual savings and holdings of total liquid assets from the three parts of the sample are very similar. It is clear that none of the differences between the estimates for these three variables is significant. The difference between the estimates of total savings obtained from Parts A and B is also well within the sampling error. Part C gives a very different estimate of total savings but it must have a large sampling error.

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[1] The estimates derived from Parts A and B assume 24 million income units (see p. 11 The national estimate for Part C is obtained by multiplying the mean by the number of persons over 18 in the United Kingdom at June 1955, i.e. 36.57 million. The derivations of the independent estimates are described in later Sections.

TABLE IV

National Estimates from the 1955 Survey

£ million

	Part A	*Part B*	*Part C*	*Independent national estimates*
Gross income ...	12,552 (±470)	11,904	12,068	13,588
Contractual savings ...	504 (±53)	480	552	530
Change in liquid assets	−192	−91	−18	347
'Miscellaneous' savings	−110	−142	−574	−651
Total savings	197 (±106)	230	−11	226
Holdings of liquid assets	5,822 (±1,133)	6,408	5,610	9,445

The estimates of gross income and of contractual savings, in the three parts of the sample, agree quite well with the independent estimates. Estimates of the change in total savings obtained from Parts A and B are close enough to the independent estimate, but Part C gives a much lower figure. The estimates of the change in total liquid assets obtained from the three parts of the sample are at variance with each other and also with the independent estimate; while only Part C gives an estimate of 'miscellaneous' savings which is tolerably near the independent estimate. The holdings of total liquid assets in the three parts of the sample all seem to be much less than the independent estimate. The independent estimates are themselves, of course, subject to wide margins of error.

The estimates for 1954/5 in the rest of this report are based on Parts A and B combined. The results from Part C will be the subject of further detailed analysis. It is possible, however, to provide rough estimates of the main variables from Parts A, B and C combined. The values obtained from Part C are converted to an income unit basis by multiplying the means by 1.52, the estimated size of income units excluding persons under 18. The averages in the three parts are weighted by the relative number of persons in each part to give combined averages per income unit, which are then multiplied by 24 million to give national estimates. The figures thus obtained are as follows:

Estimated national totals from Parts A, B and C combined

	£ million
Gross income	12,168
Contractual savings	499
Change in liquid assets	−120
'Miscellaneous' savings	−192
Total savings	180
Holdings of liquid assets	6,053

These figures do not differ substantially from those obtained from Parts A and B combined, quoted below, as Part C has a relatively small weight.

The distribution by income ranges of all the income units in Parts A and B from which information was obtained and the distribution by type of occupation of the heads of these income units are shown in Tables V and VI. The figures shown here are the actual numbers providing information, without reweighting for the different chances of selection in the upper and

TABLE V

Number of income units in the sample in each range of income

Income range £	*Number of income units*
50 — 99	86
100 — 199	222
200 — 299	173
300 — 399	200
400 — 499	254
500 — 599	247
600 — 699	231
700 — 799	177
800 — 999	188
1,000 — 1,499	135
1,500 — 1,999	40
2,000 +	39
Total	1,992

TABLE VI

Occupational distribution of heads of income units in the sample

Occupation of head of income unit	*Number of income units*
Self-employed	116
Managers and professional	291
Clerical	169
Sales	103
Skilled manual	737
Unskilled manual	207
Retired and unoccupied	369
Total	1,992

lower strata. The few cases of income units with less than £50 a year are included in the income unit which is assumed to support them.

Since, as we shall see, the high income groups are responsible for a large proportion of total personal savings, the small number of income units above £1,500 reduces the reliability of the estimates. The sampling errors for separate income ranges and occupational groups have not been worked out from the 1955 results. But in 1952 the standard error of the estimate of mean contractual savings per income unit—one of the most reliable figures from the Surveys[1]—was of the same order of magnitude as mean contractual savings in each income and occupational group; and the standard error of the estimate of total savings per income unit was three times as large as mean total savings in many income and occupational groups.[2]

III. *Estimates of Personal Income*

The Savings Surveys provide information on personal income, holdings of assets and personal savings. These three subjects will be considered in turn.

The estimates of personal income derived from the Surveys relate to

[1] In the sense that the figures are more easily determined.

[2] Lydall, *op. cit.*, p. 119, Table 56.

the gross income of the income unit, which is the total income from all sources before taxation. Income in kind is excluded, with two exceptions—farm produce from farms owned by the income unit and the rent of owner-occupied houses. A detailed definition of gross income is given in the Appendix.

The average gross income per income unit in each of the four Surveys so far undertaken was as follows:—

	Mean income per income unit*	*Standard error*
	£	£
1951/2	429	12.1
1952/3	434	9.4
1953/4	477	12.5
1954/5	509	N.A.

*Two minor changes in definition between the 1952 and 1953 Surveys have not been allowed for in these figures (*cf.* Hill, *op. cit.*, p. 130; and Hill, Klein and Straw, *op. cit.*, p. 123).

Table VII shows national estimates derived from the Surveys of the four main types of income. The national estimates are obtained by multiplying the average by 24 million which is the approximate number of income units in the United Kingdom, estimated as follows:

TABLE VII

Components of Personal Income

	Survey estimates			*£ million*
	1951/2	*1952/3*	*1953/4*	*1954/5*
Employment income	7,848	8,136	8,688	9,672
Income from self-employment*	1,320	936	1,224	816
Rent, interest and dividends ...	528	504	696	864
Government transfers	600	840	840	864
Total (and its standard error) ...	10,296 (±290)	10,416 (±226)	11,448 (±300)	12,216 (N.A.)
	Blue Book estimates (adjusted)			*£ million*
	195/12	*1952/3*	*1953/4*	*1954/5*
Employment income	8,004	8,392	8,909	9,852
Income from self-employment...	1,346	1,443	1,452	1,506
Rent, interest and dividends ...	1,093	1,158	1,262	1,325
Government transfers	684	790	860	905
Total	11,127	11,783	12,483	13,588
	Survey estimates as percentages of Blue Book estimates (adjusted)			*Percentages*
	1951/2	*1952/3*	*1953/4*	*1954/5*
Employment income	98.1	96.9	97.5	98.2
Income from self-employment	98.1	64.9	84.3	54.2
Rent, interest and dividends ...	48.3	43.5	55.2	65.2
Government transfers	87.7	106.3	97.7	95.5
Total	92.5	88.4	91.7	89.9

* These figures include small amounts of private transfers.

(*a*) The number of income units in private households in Great Britain is estimated at about 22.4 million. One can get different estimates, varying between 22.0 and 22.8 million, according to the assumptions made about the relative numbers of married women and married men.

(*b*) The 1951 Census of Population gives a total of 2.4 million persons in non-private households in Great Britain. Some of these persons belong to income units covered by the Survey, e.g. persons working in hospitals, some people in boarding houses (which are included in the Survey if there are less than three boarders), civilians attached to Defence Establishments, etc. It is estimated by Straw (*op. cit.*, pp. 293–295) that there are about 1.0 million income units in non-private households not covered by the Survey.

(*c*) The population of Northern Ireland in 1955 was 1.4 million. Assuming the same average size of income unit as in Parts A and B of the sample, the number of income units would be 0.7 million.

The total number of income units in the United Kingdom is thus estimated at 24.1 million, rounded to 24 million. The range of error is probably about ±0.5 million, i.e. 2 per cent.[1] Independent estimates derived from the National Income Blue Books are shown for comparison.

Certain adjustments have to be made to the figures given in the Blue Book before they can be compared with those derived from the Surveys. These adjustments include the deduction of (i) employers' contributions to National Insurance and other pension schemes, (ii) depreciation allowances of the self-employed, (iii) income in kind, (iv) accrued interest on National Savings Certificates, (v) investment income of private non-profit-making bodies and life assurance and superannuation schemes, (vi) Post-war credits and (vii) income of members of the Armed Forces. Certain items have to be added to the Blue Book figures, e.g. payments of annuities, pensions and compensation payments for injury.

The Blue Book figures have also been adapted to correspond as closely as possible with the periods covered by the Surveys. In the 1952, 1953 and 1954 Surveys, the fieldwork was undertaken in April and May and the information covered the previous twelve months, or near enough the financial years April to March. The 1955 Survey, for which the fieldwork was undertaken in June and July, covered approximately the year July 1954 to June 1955 inclusive. To make them broadly comparable, the Blue Book calendar year figures have been converted to the financial years 1951/2, 1952/3, 1953/4 and the period July 1954 to June 1955. Direct estimates can be obtained of wages and salaries (and associated items such as employers' National Insurance contributions) in financial years and by calendar year quarters since 1954. The average quarterly movement since 1954 has been used to obtain financial year estimates for certain other items of personal income, such as rent, interest and dividends and government transfer payments. The remaining items of personal income (small in number and amount) have been converted to financial years by linear interpolation.

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[1] An alternative estimate of the number of income units, obtained by deducting from the total population estimates of the number of wives, the number of children under 18 and the number of adults with incomes under £50 a year, gives a figure of 24¼ million.

Because it is impossible to eliminate all the differences in definition[1] and in the periods covered, exact comparability between the two sets of figures cannot be achieved.

The differences between the estimates of total personal income derived from the Surveys and the adjusted Blue Book estimates are too large to be explained by the expected errors of random sampling. It may reasonably be inferred that there are other explanations for the differences.

The Survey estimates and the Blue Book estimates of both employment income and Government transfers agree, on the whole, remarkably well. But the Surveys persistently underestimate income from self-employment and rent, interest and dividends. The close agreement between the two estimates of self-employment income in 1951/2 looks like a freak result, produced by the luck of the draw.

There are several factors which may help to explain these discrepancies. Firstly, in deriving national estimates from the Surveys, it is assumed that the average income of income units in the institutional population and in Northern Ireland is the same as that of income units in private households in Great Britain. The average income in Northern Ireland is probably lower than in Great Britain and the average income of people in ' institutions ', the bulk of whom are in hotels, boarding houses and Defence Establishments, is probably higher than in private households; the net effect is likely to be small. Similarly, the margin of error in the estimated number of income units in the United Kingdom cannot account for more than a small part of the discrepancy.

Secondly, although the two sets of estimates have, as far as possible, been put on to a comparable basis, some incomes reported by self-employed people in the Surveys will not refer exactly to the previous twelve months but to a twelve month period ending some time before the date of the interview. (In the Blue Book, the corresponding figures refer to accounting years extending either side of the calendar year.) In a period of generally rising money incomes, such as that covered by the four Surveys, this time-lag will tend to depress the Survey estimates; but its effect cannot be very large.

Thirdly, there may be some under-reporting of particular kinds of income for which an allowance is made in the Blue Book. In addition, some incomes which are received net of tax, e.g., interest and dividends, may be recorded as gross of tax.

Fourthly, and this is probably the most important cause, there is evidence

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[1] One difference which cannot be eliminated is that in the Surveys private transfers within the personal sector are included in the income of the recipient but they do not form part of total personal income, given in the Blue Book. The figures of income from self-employment, shown in Table VII include private transfers of about £3 per income unit in each year.

TABLE VIII

Distribution of Gross Income shown by Surveys *Percentage of income units*

Income range	*Distribution of income units in Snrveys by Gross Income*			
£	*1951/2*	*1952/3*	*1953/4*	*1954/5*
50 — 99	7.8	5.4	4.5	5.4
100 — 199	16.2	17.2	15.6	14.2
200 — 299	14.2	13.7	12.2	11.5
300 — 399	20.6	16.9	14.4	10.7
400 — 499	16.0	16.5	15.2	13.4
500 — 599	9.8	12.2	12.8	12.4
600 — 699	5.4	7.8	9.4	10.8
700 — 799	3.1	2.9	5.4	8.5
800 — 999	2.9	3.9	5.2	6.8
1,000 — 1,499	2.3	2.1	3.5	4.3
1,500 — 1,999	0.8	0.5	0.9	1.0
2,000 + ...	0.9	0.9	0.9	1.0
Total	100.0	100.0	100.0	100.0
All groups	429	434	477	509

that the higher income groups are not as well represented in the Surveys as they should be; willingness to co-operate in the Surveys appears to decline as income increases.

It is difficult to obtain accurate estimates of the distribution of incomes on the same basis as those shown by the Savings Surveys in Table VIII. The only source of information is the Inland Revenue data on the income distribution of income tax units. The Inland Revenue does not include certain types of income such as national assistance grants, those National Insurance benefits and grants which are not liable to tax, mortgage interest, most of National Insurance and superannuation contributions, and other allowable expenses for tax purposes; and they do not include the income of children under 18 with that of their parents. The effect is to 'lower' the Inland Revenue distribution and in particular to increase the numbers in the lowest income ranges.

It is nevertheless possible, by making some adjustments, to arrive at reasonably comparable distributions. In the 1952 and 1953 Surveys, separate tabulations were made of 'statutory income' which is broadly comparable with the definition used by the Inland Revenue. The two distributions for these years are shown in Table IX. The adjustments which cannot be made cause the Survey figures of income to be higher than the Inland Revenue figures.

In the 1955 Survey, statutory income was not separately tabulated, but some adjustments have been made to the Inland Revenue figures to allow for differences in the definition of income, but not for the difference in the treatment of persons under 18.[1] The two distributions are shown in Table X.

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[1] This is only possible for 1954/5, since the adjustments are based on the results of a special survey by the Inland Revenue in that year.

Table IX

*Distributions by 'Statutory Income' of income units in the Surveys compared with Inland Revenue distributions**

Income range £	*1951/2*		*1952/3*	
	Income units in Survey %	*Inland Revenue* %	*Income units in Survey* %	*Inland Revenue* %
50 — 199	28.3	30.0	29.2	28.9
200 — 299	13.9	15.8	13.3	13.5
300 — 399	19.8	16.9	16.2	16.0
400 — 499	15.3	14.2	15.3	14.2
500 — 599	9.0	10.0	10.5	10.8
600 — 699	4.8	5.4	6.5	6.8
700 — 799	2.7	2.4	2.4	3.3
800 — 999	2.4	2.1	3.4	2.6
1,000 — 1,499	2.1	1.6	2.4	2.8
1,500 — 1,999	0.8	0.6		
2,000 +	0.9	1.0	0.8	1.1
Total	100.0	100.0	100.0	100.0

* An estimate is made of the total number of income units and the number in the lowest range is arrived at by difference (see Blue Book, 1957, p. 65).

Table X

*Distributions of Income units in Survey by Gross Income and Inland Revenue (adjusted) distribution in 1954/5**

Income range £	*Income units in Survey* %	*Inland Revenue (adjusted)* %
50 — 199	19.6	24.8
200 — 299	11.5	12.4
300 — 399	10.7	12.0
400 — 499	13.4	12.5
500 — 599	12.4	11.2
600 — 699	10.8	8.8
700 — 799	8.5	6.3
800 — 999	6.8	6.3
1,000 — 1,499	4.3	3.4
1,500 — 1,999	1.0	1.0
2,000 +	1.0	1.3
Total	100.0	100.0

*An estimate is made of the total number of income units and the number in the lowest range is arrived at by difference (see Blue Book 1957, p. 65).

The difference in treatment of persons under 18 largely accounts for the differences in the two distributions in the three lowest income ranges. In all three years, the percentage of incomes above £2,000 a year shown by the Surveys is less than that given by the Inland Revenue figures. The differences between the response rates in the upper and lower strata, shown below, provide further confirmation of the under-representation of the higher income groups, since there is a correlation between rateable value and income.

All the differences, judging by the standard errors in 1954/5 (see page 116) appear to be significant.[1]

Response Rates—Percentages of income units

	1951/2	*1952/3*	*1953/4*	*1954/5*
Lower Stratum	77.8	68.9	68.1	72.4
Upper Stratum	57.5	47.2	62.0	63.0
Combined Strata	75.1	66.1	67.2	71.1

The under-representation of people with high incomes appears to account for some but can hardly account for the whole of the deficiency in the Survey estimates of income from self-employment and unearned income.

The deficiency may be caused either by a greater reluctance to co-operate amongst people with these types of income, or by the failure to record all such incomes in full, or by a combination of the two. There is, in fact, direct evidence—see Table XI—that self-employed people are under-represented in the Surveys; and the two years in which the self-employed are least well represented, 1952/3 and 1954/5, are also the years which show the greatest deficiency in income from self-employment.

TABLE XI

Occupational Distribution—Comparison of Surveys with 1951 Census of Population
Percentage of income units

Occupation of head of income unit	*1951 Census**	*1951/2*	*1952/3*	*1953/4*	*1954/5*
Self-employed	6.3	6.3	4.4	7.0	4.1
Managers and professional ...	8.5	6.2	7.3	9.6	8.6
Clerical	10.6	12.0	8.3	7.0	7.6
Sales			5.6	3.8	4.9
Skilled manual...	50.4	36.2	34.7	38.4	39.7
Unskilled manual		17.1	17.0	13.3	11.9
Retired and unoccupied ...	24.2	21.6	22.8	20.9	23.2
Not known	—	0.6	—	—	—

* Derived from the *One Per Cent Sample Tables*, taking each male over 18 and each female of similar age who is recorded as single, widowed or divorced as the head of an income unit.

The under-representation of the self-employed—a substantial proportion of whom must be in the higher income brackets—could account for practically the whole of the deficiency in the estimates of income from self-employment in 1952/3 and 1954/5, but not in 1953/4.

The deficiency in rent, interest and dividends is less easily explained. These forms of income cannot be assigned to particular types of income unit, but the results of the 1952 Survey suggest that the largest amounts are received by managers and professional, self-employed, and retired and unoccupied people, in that order;[2] the proportion of income received as rent, interest and dividends also increases as the income of the unit increases, particularly in the two highest income groups.[3] The under-representation of the self-employed, the managerial and professional group (in 1952/3), the retired and unoccupied, and of the high income groups which to some extent overlap with the groups just mentioned, must account for some of the deficiency.

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[1] Detailed analyses of the response rates are given by Hill, Klein and Straw, *op. cit.*, p. 114 and Hill, *op. cit.*, p. 159 *et seq.*

[2] Cf. Lydall, *op. cit.*, Table XVI, p. 41.

[3] *Ibid*, Table XVIII, p. 43.

But it also looks as if those people who co-operated in the Surveys failed to record a substantial proportion of their unearned income and, probably also, some income from self-employment. Thus although managers and professional people and the self-employed were adequately represented in 1953/4, there was a large deficiency in that year in unearned income, as well as some deficiency in income from self-employment.

IV. *Estimates of Asset Holdings*

The Savings Surveys also provide estimates of the amounts of liquid assets held by private individuals.[1] Two kinds of liquid assets are here distinguished—National Savings, and all other liquid assets, of which a detailed list is given in the Appendix.

Each Survey provides estimates of the amounts of liquid assets held at the time of the Survey and the amounts held twelve months previously, the difference being one of the components of personal saving. We thus have two estimates of the amounts held in April 1952 and April 1953, an estimate for April 1954 and another for June 1954, and one estimate for June 1955. The estimates are set out in Table XII.

TABLE XII

Estimated Holdings of Liquid Assets

End of:	*Averages per income unit* £		*National totals* £ *million*	
	At time of Survey	*From later Survey*	*At time of Survey*	*From later Survey*
	Holdings of National Savings			
April, 1952	139	129	3,336	3,096
April, 1953	124	133	2,976	3,192
April, 1954	130	147*	3,120	3,528*
June, 1955	144	N.A.	3,456	N.A.
	Holdings of Other Liquid Assets			
April, 1952	86	80	2,064	1,920
April, 1953	70	130	1,680	3,120
April, 1954	122	116*	2,928	2,784*
June, 1955	113	N.A.	2,712	N.A.
	Holdings of Total Liquid Assets			
April, 1952	225	209	5,400	5,016
April, 1953	194	263	4,656	6,312
April, 1954	252	263*	6,048	6,312*
June, 1955	257	N.A.	6,168	N.A.

* End of June, 1954.

The only date for which there is a substantial difference between the alternative estimates available from the Surveys is April 1953. In general, one would expect the amounts held at the time of the Survey to be more accurately known than the amounts held twelve months previously. But the low figure of other liquid assets held in April 1953, obtained from the 1953 Survey, appears to be partly due to the exceptionally small amount of holdings recorded by income units in the £1,500–£1,999 range in that year (see Table XIV); it is also partly due to the fact that the representation of the self-employed was particularly low in 1953 (see Table XI).

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[1] Hill, *op. cit.*, has discussed the estimates of net worth, including holdings of other types of assets as well, obtained from the 1953 and 1954 Surveys. As corresponding figures for 1954/5 are not available, only the holdings of liquid assets are discussed here.

Table XIII shows the holdings of liquid assets recorded at the time of each Survey, and the same figures reweighted by Inland Revenue figures of the numbers in different income ranges and Census of Population figures of the numbers in different occupational groups.[1] The table includes independent national estimates which are not, however, on a strictly comparable basis; in particular, they include unknown amounts of non-personal holdings.[2] From the standard errors of the estimates of total liquid assets in 1952, 1953 and 1954, shown in brackets, it is clear that the differences between the independent estimates and the Survey estimates, even after reweighting by income and occupational groups, are significant.

TABLE XIII

Estimates of Liquid Asset Holdings

£ million

End of:	*Survey estimates*			*Independent national estimates**
	Unadjusted	*Reweighted by income*	*Reweighted by occupation*	
	Holdings of National Savings			
April, 1952	3,336	3,404	3,569	5,413
April, 1953	2,976	3,174	3,185	5,316
April, 1954	3,120	3,110	3,116	5,292
June, 1955	3,456	3,517	3,640	5,408
	Holdings of Other Liquid Assets			
April, 1952	2,064	2,275	2,294	3,368
April, 1953	1,680	1,923	1,901	3,577
April, 1954	2,928	3,057	2,975	3,810
June, 1955	2,712	2,727	2,942	4,037
	Holdings of Total Liquid Assets			
April, 1952	5,400 (±593)	5,679	5,863	8,781
April, 1953	4,656 (±360)	5,097	5,086	8,893
April, 1954	6,048 (±722)	6,167	6,091	9,102
June, 1955	6,168	6,244	6,582	9,445

* Figures of the holdings of National Savings are provided by the National Savings Committee and published in the *Monthly Digest of Statistics*. The independent estimates of bank deposits are derived from figures supplied by the Committee of London Clearing Bankers. No estimates of deposits in other savings banks are available. The other components are derived from the Reports of the Chief Registrar of Friendly Societies.

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[1] The Inland Revenue figures used in reweighting include adjustments to bring them into line with the definition of income used in the Surveys (see p. 123). In addition a rough attempt has been made to include the income of children and dependent adults with that of the unit to which they belong.

[2] In addition the independent estimates exclude loan stock issued by Co-operative Societies, while in many cases the respondents in the Surveys included loan stock with liquid assets and it has not been possible to exclude them.

TABLE XIV

Average Holdings of Liquid Assets per income unit

£

Income range £	National Savings				Other Liquid Assets				Total Liquid Assets			
	April 1952	April 1953	April 1954	June 1955	April 1952	April 1953	April 1954	June 1955	April 1952	April 1953	April 1954	June 1955
50 — 99 ...	81	81	65	88	26	57	100	42	107	138	165	130
100 — 199 ...		95	88	110		32	55	78		127	143	188
200 — 299 ...	83	66	101	111	33	35	59	43	116	101	160	154
300 — 399 ...		81	69	123		28	31	136		109	100	259
400 — 499 ...	131	114	147	125	54	44	44	57	185	158	191	182
500 — 599		86	97	122		37	53	70		123	150	192
600 — 699 ...	191	210	118	128	114	99	131	80	305	309	249	208
700 — 799 ...		230	265	137		106	386	100		336	651	237
800 — 999 ...		220	212	181		202	137	111		422	349	292
1,000 — 1,499 ...	831	444	307	225	1,121	346	483	540	1,952	790	790	765
1,500 — 1,999 ...		315	516	700		174	1,443	580		489	1,959	1,280
2,000 + ...		939	494	1,078		1,564	1,656	930		2,503	2,150	2,058
Occupation of head of income unit												
Self-employed ...	329	308	288	368	511	288	194	445	840	596	482	813
Managers and professional ...	424	352	208	275	254	285	406	244	678	637	614	519
Clerical	98	79	136	94	53	39	54	74	151	118	190	168
Sales				60				55				115
Skilled manual ...	77	72	80	84	27	30	31	60	104	102	111	144
Unskilled manual	51	56	60	55	23	12	31	16	74	68	91	71
Retired and unoccupied ...	194	171	173	238	96	85	231	172	290	256	404	410
All groups ...	139	123	130	144	86	71	122	113	225	194	252	257

The object of reweighting the results is to reduce the effects of bias due to uneven response. Unfortunately this can never be entirely successful because it is not possible to correct by income and occupational groups simultaneously. However, it seems clear that there is considerable under-reporting of holdings of assets, even though we do not know the amount of non-personal holdings included in the independent estimates.

The average holdings of liquid assets per income unit in different income ranges and occupational groups, recorded at the time of each Survey, are shown in Table XIV. There is a marked increase in the average holdings of each of the two broad groups of assets as income increases; even National Savings show a strong correlation with income, though not as strong as other liquid assets.

Table XV shows the contributions of each income and occupational group (using estimated numbers in each group derived from Inland Revenue and Census of Population data) to the total holdings of liquid assets. Two sets of totals are thus obtained, as in Table XIII.

The higher income groups and the ' higher ' occupational groups, though only a small proportion of the population, evidently account for a large proportion of the total holdings of liquid assets. The retired and unoccupied also hold a substantial proportion and this gives them the opportunity to dissave, of which they take full advantage (see Table XIX).

V. *Estimates of Three Main Kinds of Saving*

As the primary object of the Surveys was to collect information about personal savings, this information is presented here in a fair amount of detail.

The concept of personal savings, used in the Surveys, includes life assurance premiums, superannuation payments, the repayment of mortgage debt, changes in Post Office Savings Bank accounts and ordinary bank deposits, investment in one's own business, the purchase of stocks and shares and changes in other personal assets and liabilities; changes in holdings of notes and coin are not included. A detailed list of the items included in the definition of personal savings will be found in the Appendix.

Personal savings may be divided into the following three main groups:

(*a*) *Contractual savings*, which consist of premiums on life assurance policies, superannuation payments and the repayment of mortgage debt;

(*b*) *Changes in liquid assets*, which include National Savings, shares and deposits in Building and Co-operative Societies and ordinary bank deposits (but not notes and coin); and

(*c*) '*Miscellaneous*' *savings*, including net purchases of stocks and shares, investment in one's own business, gifts or loans of capital to others, purchases of houses and all other types of personal savings.

The results obtained under each of these headings will be discussed in turn.

All the results are affected by the low response rates of people in the higher income ranges and in certain occupational groups, discussed above (pages 125 and 126). In each case the results are given in three stages:

TABLE XV

Contributions to Holdings of Liquid Assets of each income and occupational group

£ million

Income range £	National Savings				Other Liquid Assets				Total Liquid Assets			
	April 1952	April 1953	April 1954	June 1955	April 1952	April 1953	April 1954	June 1955	April 1952	April 1953	April 1954	June 1955
50 — 99 ...	462	106	75	125	148	75	116	60	610	181	191	185
100 — 199		397	354	411		134	221	291		531	575	702
200 — 299 ...	653	219	341	328	260	116	199	127	913	335	540	455
300 — 399 ...		305	244	355		105	110	393		410	354	748
400 — 499	791	390	492	382	326	151	147	174	1,117	541	639	556
500 — 599		242	271	343		104	148	197		346	419	540
600 — 699 ...	639	405	236	292	382	191	262	182	1,021	596	498	474
700 — 799		244	344	228		112	501	166		356	845	394
800 — 999 ...		233	257	308		214	166	189		447	423	497
1,000 — 1,499	859	290	233	203	1,159	226	367	487	2,018	516	600	690
1,500 — 1,999 ...		63	108	180		29	302	149		92	410	329
2,000 + ...		280	155	362		466	518	312		746	673	674
All groups* ...	3,404	3,174	3,110	3,517	2,275	1,923	3,057	2,727	5,679	5,097	6,167	6,244
Occupation of head of income unit												
Self-employed ...	497	466	435	557	773	435	293	673	1,270	901	728	1,230
Managers and professional	865	718	424	561	518	581	828	498	1,383	1,299	1,252	1,059
Clerical	249	201	346	145	135	99	137	114	384	300	483	259
Sales				60				55				115
Skilled manual ...	633	584	719	782	222	244	279	558	855	828	998	1,340
Unskilled manual	198	223	187	153	89	48	96	45	287	271	283	198
Retired and unoccupied ...	1,127	993	1,005	1,382	557	494	1,342	999	1,684	1,487	2,347	2,381
All groups* ...	3,569	3,185	3,116	3,640	2,294	1,901	2,975	2,942	5,863	5,086	6,091	6,582

* The two sets of figures shown do not agree because they are based on different methods of reweighting.

(i) without any reweighting by income or occupational groups;

(ii) after reweighting the averages per income unit in each income range by Inland Revenue figures of the numbers of income units in each range; and

(iii) after reweighting the averages per income unit in each of seven broad occupational groups by corresponding figures derived from the 1951 Census of Population.

The process of reweighting does not, of course, remove altogether the effects of uneven response rates, mainly because it is impossible to reweight the results simultaneously by income ranges and occupational groups, no figures being available of the numbers in different income ranges within each occupational group. In addition, there are probably variations in response rates within each income range (e.g., in the top open-ended range) and within each broad occupational group, which are not taken into account.

(*a*) *Contractual Savings*

The amounts of total contractual savings, recorded in the Surveys, and the results of reweighting these figures by income ranges and occupational groups are shown in Table XVI, together with some rough independent estimates.[1] The unadjusted Survey estimates agree fairly well with the independent estimates and the effects of either method of reweighting are fairly slight. The differences between the independent estimates and the Survey estimates are well within the expected sampling errors (shown in brackets), which were estimated only for 1952/3 and 1953/4.

The distribution of the different types of contractual savings by income ranges and occupational groups is shown in Table XVII. As might be expected, there is a strong correlation between all types of contractual savings and income. The self-employed and managers pay much more than other groups of the population in life assurance premiums—even when these are combined with superannuation payments—and also in mortgages.

(*b*) *Changes in Liquid Assets*

Since each Survey provides information about the amount of liquid assets held at the time of the Survey and one year previously, we have two estimates of the amounts held in April 1952 and in April 1953 and two estimates of the amounts held at dates close together (April and June) in 1954. It is, therefore, possible to obtain two estimates of the changes from April 1951 to April 1952 and from April (or June) 1954 to June 1955; and four estimates of the changes from April 1952 to April 1953 and from April 1953 to April (or June) 1954. But these estimates are not all equally valid.

Let ${}_sA_t$ ($s = t$ or $t—1$) denote the amount of assets held at time s, recorded in the Survey held at time t. It seems likely that ${}_{t-1}A_t$, which relies on memory, is less accurate than ${}_tA_t$. Let us suppose that ${}_tA_t$ is an accurate

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[1] The estimates of life assurance premiums are taken from the *Summary of Statements of Assurance Business*, the estimates of mortgage payments from the *Reports of the Registrar of Friendly Societies* and the estimates of superannuation payments from the *Phillips Report on Superannuation* (Cmd. 9333). In most cases the figures for the Survey years are derived by interpolation from calendar year figures.

TABLE XVI

Estimates of Contractual Savings

	Survey estimates				Independent national estimates
	Averages per income unit £	*Unadjusted totals* £ *million*	*Totals reweighted by income* £ *million*	*Totals reweighted by occupation* £ *million*	£ *million*
1951/2	18.0	432	453	455	433
1952/3	17.0	408 (±24)	453	438	453
1953/4	20.7	497 (±34)	485	457	494
1954/5	20.9	502	491	520	530

figure of the total amount held by households in the sample, but that ${}_{t-1}A_t$ is subject to an error, due to imperfect memory, of $\pm\delta$ which is of the same order of magnitude at each date. Suppose that ${}_tA_t$ and ${}_{t-1}A_t$ are each subject to the same sampling error, $\pm\sigma$, which we also assume to be of the same order of magnitude at each date; and that $\overline{{}_tA_t - {}_{t-1}A_t}$, the change in holdings estimated from a single survey, is subject to a sampling error ϵ; δ is assumed to be independent of both σ and ϵ.

The four possible estimates of the change in holdings between t—1 and t, with their approximate standard errors, are:

(i) ${}_tA_t - {}_{t-1}A_{t-1} \pm \sqrt{2\sigma^2}$
(ii) ${}_tA_t - {}_{t-1}A_t \pm \sqrt{\epsilon^2+\delta^2}$.
(iii) ${}_tA_{t+1} - {}_{t-1}A_{t-1} \pm \sqrt{2\sigma^2+\delta^2}$
(iv) ${}_tA_{t+1} - {}_{t-1}A_t \pm \sqrt{2\sigma^2+2\delta^2}$.

The implication is that (iii) and (iv) which must both be less accurate than (i), can both be rejected. Whether (i) is more or less accurate than (ii) depends on the relative sizes of σ, ϵ and δ.

Since changes in holdings are likely to be smaller than the amounts held, ϵ may be expected to be rather smaller than σ. It is also plausible to suppose that δ, the random error due to imperfect memory, is likely to be smaller than σ. On the other hand, imperfect memory may introduce a bias into (ii)i, in addition to any bias, e.g. from uneven response rates, which would affect both (i) and (ii). Thus (i) may be expected to be the more *consistent* and (ii) the more *efficient* estimator. But all this is rather conjectural.

Estimates of the average change in holdings given by (i) and (ii), corresponding national totals, and national estimates of (ii) reweighted by income ranges and occupational groups, are shown in Table XVIII, together with independent estimates. The two sets of estimates derived from the Surveys are very different from each other. The Survey estimates, particularly of 'other' liquid assets, are also very different from the independent national estimates which, however, are very rough.

The holdings of National Savings in April 1953, recorded in the 1953 Survey, were exceptionally low (see Table XIII). If we use the 1954 Survey

Table XVII

Average Contractual Savings per income unit

£

Income range £	*Life Assurance Premiums*				*Superannuation Conts.*				*Mortgage Repayments*				*Total Contractual Savings*			
	1951/2	*1952/3*	*1953/4*	*1954/5*	*1951/2*	*1952/3*	*1953/4*	*1954/5*	*1951/2*	*1952/3*	*1953/4*	*1954/5*	*1951/2*	*1952/3*	*1953/4*	*1954/5*
50 — 99 ...	2	3	12	3	0	0	0	0	1	0	3	1	3	3	15	4
100 — 199 ...	3	3	2	3	0	0	0	0	1	1	0	0	4	4	2	3
200 — 299 ...	5	5	3	4	1	1	1	2	1	1	0	0	7	7	4	6
300 — 399 ...	9	8	9	6	2	2	2	1	1	2	1	1	12	12	12	8
400 — 499 ...	12	10	10	9	4	3	3	4	2	2	3	2	18	15	16	15
500 — 599 ...	14	13	13	12	6	4	5	4	5	4	7	5	25	21	25	21
600 — 699 ...	15	12	14	13	6	6	6	5	5	5	6	6	26	23	26	24
700 — 799 ...	18	14	17	13	8	10	11	9	10	9	7	10	36	33	35	32
800 — 999 ...	21	19	18	20	11	15	13	10	14	15	13	11	46	49	44	41
1,000 — 1,499 ...	47	38	35	28	10	21	17	16	25	26	27	17	82	85	79	61
1,500 — 1,999 ...	48	42	45	62	23	10	32	24	23	19	20	10	94	71	97	96
2,000 + ...	118	98	87	123	29	34	31	71	32	38	38	20	179	170	156	214
Occupation of head of income unit																
Self-employed ...	32	32	33	37	1	3	2	8	14	12	12	8	47	47	47	53
Managers and professional ...	35	24	26	29	23	20	23	26	14	17	15	17	72	61	64	72
Clerical	9	8	8	9	5	6	6	7	4	3	5	6	18	17	19	22
Sales				10				6				6				22
Skilled manual ...	10	10	11	11	3	3	3	4	2	3	4	4	15	16	18	19
Unskilled manual	7	8	7	8	1	1	1	2	2	1	1	3	10	10	9	13
Retired and unoccupied ...	4	4	3	4	0	0	0	0	1	1	0	0	5	5	3	4
All groups ...	11	9	11	12	3	4	5	5	4	4	5	4	18	17	21	21

figures of holdings in 1953, and otherwise use method (i), we get the following estimates:

	Per income unit £	*National total* £ *million*
April 1952 to April 1953...	− 6	−144
April 1953 to June 1954	− 3	− 72
June 1954 to June 1955	+14	+336

which are at least closer to the independent estimates.

The Survey estimates of liquid assets are likely to be very much affected by the under-representation of the higher income groups and of the self-employed, which cannot be altogether eliminated by reweighting. The effects of either method of reweighting are seen to be fairly small compared with the large discrepancies between any of the Survey estimates and the independent estimates.

To the extent that the independent estimates are reliable, the results suggest that much of the information given by those who co-operate in the Surveys is either inaccurate or out of line with the definition of personal savings. We know, for example, that the bank accounts of the self-employed, who account for a large proportion of the change in liquid assets, do not always distinguish between their private and business affairs; this mainly affects the division between changes in liquid assets and 'miscellaneous' savings, but may also affect the estimate of total personal savings since business savings and the change in liquid assets are estimated by different methods.

The changes in average holdings of liquid assets in different income ranges and occupational groups, given by method (ii), are shown in Table XIX. All four years saw a decline in average holdings in nearly all occupational groups and in most income ranges. But the sampling errors of the estimates for each of the groups shown are rather large and may, for example, entirely account for the year-to-year fluctuations in the holdings of people in the top income range.

(*c*) '*Miscellaneous*' *Savings*

'Miscellaneous' savings consist of a varied collection of items, of which the most important is business savings. A detailed list of all the items included under this heading is given in the Appendix.

The 1953 Survey introduced an important change in the questions about business savings. The 1952 Survey included a question asking how much had been taken out of the business for living expenses. It became obvious when the schedules were scrutinised that various other expenses (e.g. purchase of durable goods, holidays) had been paid for out of current profits but were not recorded as living expenses. Consequently, the estimates of business savings in 1952 were too high. The schedules used in the 1953 and subsequent Surveys included more detailed questions about expenses and, as a result, the estimates of business expenses were improved. The information obtained in the 1953 Survey suggested that the error was about £2 per income unit and, in all the figures quoted below except those for different income groups (since there is no information about the distribution of the savings of the

Table XVIII

Estimates of the Change in Liquid Assets

	Survey estimates						
	Averages per income unit £		*National totals* £ *million*				
	Change measured by (i)	*Change measured by (ii)*	*Change measured by (i)*	*Change measured by (ii)*	*Change measured by (ii), re-weighted by income* £ *million*	*Change measured by (ii), re-weighted by occupation* £ *million*	*Independent national estimates* £ *million*
			Change in National Savings				
April 1951 to April 1952 ...	N.A.	−11	N.A.	−264	−264	−250	− 75
April 1952 to April 1953 ...	−15	− 6	−360	−144	−135	−147	− 97
April 1953 to April 1954 ...	+ 6*	− 3	+144*	− 72	− 61	− 63	− 24
June 1954 to June 1955 ...	+14	− 3	+336	− 72	−140	− 85	+116
			Change in Other Liquid Assets				
April 1951 to April 1952 ...	N.A.	− 7	N.A.	−168	−178	−202	+104
April 1952 to April 1953 ...	−16	− 9	−384	−216	−237	−213	+209
April 1953 to April 1954 ...	+52*	− 8	+1248*	−192	−242	−184	+233
June 1954 to June 1955 ...	− 9	− 3	−216	− 72	− 46	−114	+227
			Change in Total Liquid Assets				
April 1951 to April 1952 ...	N.A.	−18	N.A.	−432	−442	−452	+ 29
April 1952 to April 1953 ...	−31	−15	−744	−360	−372	−360	+112
April 1953 to April 1954 ...	+58*	−11	+1392*	−264	−303	−247	+209
June 1954 to June 1955 ...	+ 5	− 6	+120	−144	−186	−199	+343

* April 1953 to June 1954.

TABLE XIX

Average Change in Holdings of Liquid Assets per income unit

£

Income range £	National Savings 1951/2	National Savings 1952/3	National Savings 1953/4	National Savings 1954/5	Other Liquid Assets 1951/2	Other Liquid Assets 1952/3	Other Liquid Assets 1953/4	Other Liquid Assets 1954/5	Total Liquid Assets 1951/2	Total Liquid Assets 1952/3	Total Liquid Assets 1953/4	Total Liquid Assets 1954/5
50— 99 ...	− 8	− 5	− 9	− 3	− 6	− 17	− 6	− 2	−14	− 22	− 15	− 5
100— 199 ...		− 6	− 3	− 4		0	− 8	− 4		− 6	− 11	− 8
200— 299 ...	− 7	+ 2	− 3	− 19	− 4	− 6	− 2	+14	−11	− 4	− 5	− 5
300— 399 ...		− 6	− 8	− 31		− 5	+ 2	+14		− 11	− 6	− 17
400— 499 ...	−12	− 5	+ 2	− 1	− 4	− 8	− 8	+ 1	−16	− 13	− 6	0
500— 599 ...		−21	− 9	− 5		− 4	− 4	− 2		− 25	− 13	− 7
600— 699 ...	−15	−20	0	− 6	−12	− 5	− 5	0	−27	− 25	− 5	− 6
700— 799 ...		+20	+14	− 2		− 10	− 28	−28		+ 10	− 14	− 30
800— 999 ...		0	+ 6	+ 7		− 92	+ 6	−14		− 92	+ 12	− 7
1,000—1,499 ...	−40	+ 3	− 1	+ 3	−47	− 69	+ 1	−60	−87	− 66	0	− 57
1,500—1,999 ...		−15	+17	+ 32		−150	+ 54	−42		−165	+ 71	− 10
2,000+ ...		+28	−35	+106		+189	−440	+90		+217	−475	+196
Occupation of head of income unit												
Self-employed ...	−39	−14	−27	+28	−56	−10	− 1	−72	−95	−24	−28	−44
Managers and professional ...	+ 6	+ 2	+12	+ 4	−29	−14	−50	−27	−23	−12	−37	−23
Clerical	−17	− 7	− 9	+ 2	+ 2	− 6	−18	+ 1	−15	−13	−27	+ 3
Sales				− 7				− 9				−16
Skilled manual...	− 7	− 7	− 1	− 1	− 2	−14	− 1	0	− 9	−22	− 1	− 1
Unskilled manual	− 4	− 8	− 1	+ 6	0	− 1	+ 1	+ 2	− 4	− 9	− 1	+ 8
Retired and unoccupied ...	−15	− 4	− 2	−24	− 8	− 6	− 5	+ 9	−23	−10	− 7	−15
All groups ...	−11	− 6	− 3	− 3	− 7	− 9	− 8	− 3	−18	−15	−11	− 6

self-employed by income groups), the figure of business savings in 1952 has been reduced by this amount.[1]

The estimates of 'miscellaneous' savings, derived from the Surveys, are very different from the independent estimates. (See Table XX.)

TABLE XX

Estimates of 'Miscellaneous' Savings

	Survey estimates				*Independent national estimates*
	Averages per income unit £	*Unadjusted totals* £ *million*	*Totals reweighted by income* £ *million*	*Totals reweighted by occupation* £ *million*	£ *million*
1951/2	+2	+48	+115*	+ 40	−314
1952/3	+1	+24	+ 44	+ 62	−335
1953/4	−1	−24	+ 39	− 62	−403
1954/5	−4	−96	− 94	−108	−617

* Excludes the adjustment for business saving, which would reduce the figure considerably.

The independent estimates of 'miscellaneous' savings are simply the differences between the estimates of total personal savings and the sum of the independent estimates of contractual savings and changes in liquid assets and are therefore not very reliable. And so it is hardly surprising that they are very different from the estimates derived from the Surveys. The most that can be said is that the year-to-year changes in the two sets of estimates are in the same general direction.

Table XXI shows average 'miscellaneous' savings per income unit in different income ranges and occupational groups. 'Miscellaneous' savings of the self-employed have apparently declined and such savings by the top income ranges showed a sharp decline in the year 1954/5.

VI. *Personal Savings as a Whole*

It is time to draw the threads together and to look at the estimates of personal savings as a whole. Table XXII sets out the estimates of average savings per income unit (i) without reweighting, (ii) after reweighting by income ranges, and (iii) after reweighting by occupational groups. In general the most accurate estimates obtainable from the Surveys are those based on reweighting by income ranges but, as the samples were not adequately representative of all groups of the population, the results are very sensitive to the method of reweighting.

The sum of the components, shown in Table XXII, usually differs from the figure of total savings. Some people gave incomplete information, providing figures for one type of savings and not for others. Throughout this report the estimates for each type of savings are based on all those who gave information about that type while the figures of total savings are based only on those who gave full information about all types. Of the two different figures of total savings which can thus be obtained, it is difficult to decide

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[1] The figures for 'miscellaneous' savings given in this report also differ from those given in earlier reports because of the different treatment of winnings from betting (see Appendix p. 152).

TABLE XXI

Average ' Miscellaneous ' Savings per income unit £

Income range £	*1951/2**	*1952/3*	*1953/4*	*1954/5*
50 — 99	— 7	+ 1	— 62	—13
100 — 199		— 7	0	— 1
200 — 299	— 3	— 6	— 2	— 5
300 — 399		+ 1	— 3	— 9
400 — 499	— 7	— 17	— 5	— 8
500 — 599		+ 6	— 6	— 8
600 — 699	— 5	+ 3	— 31	— 3
700 — 799		— 49	+ 5	+ 1
800 — 999	+ 42	+ 63	— 12	—12
1,000 — 1,499	+ 79	+ 47	— 6	+38
1,500 — 1,999	+330	+238	— 9	+34
2,000 + ...		+104	+763	—10
Occupation of head of income unit				
Self-employed	+156	+113	+58	+48
Managers and professional ...	— 41	— 18	+ 8	+ 1
Clerical	— 13	— 6	+ 3	— 5
Sales				
Skilled manual	— 3	+ 1	— 5	—10
Unskilled manual	— 8	+ 1	— 6	—17
Retired and unoccupied ...	— 4	— 12	—19	— 4
All groups...	+ 2	+ 1	— 1	— 4

* It is not possible to correct the figures for different income ranges in 1951/2 for the change in the method of estimating business saving from 1953 onwards (see page 134) and the figures shown correspond to the recorded average for all groups of £4 per income unit.

TABLE XXII

Components of Personal Savings per income unit £

	*1951/2**	*1952/3*	*1953/4*	*1954/5*
Unweighted:				
Contractual Savings	+18	+17	+21	+21
Change in total liquid assets ...	—17	—15	—11	— 6
' Miscellaneous ' Savings ...	+ 2	+ 1	— 1	— 4
Total	+ 2	+ 5	+12	+10
Reweighted by income:				
Contractual Savings	+18.9	+18.9	+20.2	+20.5
Change in total liquid assets ...	—18.4	—15.5	—12.6	— 7.8
' Miscellaneous ' Savings ...	+ 4.8	+ 1.8	+ 1.6	— 3.9
Total	+ 5.5	+ 6.2	+11.8	+10.6
Reweighted by occupation:				
Contractual Savings	+19.0	+18.2	+19.0	+21.6
Change in total liquid assets ...	—18.8	—15.0	—10.3	— 8.3
' Miscellaneous ' Savings ...	+ 1.7	+ 2.5	— 2.5	— 4.5
Total	+ 2.0	+ 6.8	+ 9.6	+11.3

* The unweighted estimates for 1951/2 and those re-weighted by occupation include adjustments for the change in the method of estimating business saving (see page 134).

which is the better. The sum of the components makes use of more information; on the other hand, where the information is incomplete it may also be unreliable. In the case of holdings of assets in 1953 and 1954 the sum of the components is larger than the alternative estimate (*cf.* Hill, *op. cit.*, p. 148); in the case of savings, on the other hand, the sum of the components is generally smaller and this suggests that, where information was given only about some types of saving, even this information may have been incomplete.

The mechanics of personal saving are here clearly displayed. Once a life assurance, endowment or annuity policy is taken out, the premiums must be maintained if the full benefits are to be enjoyed. Contractual savings therefore remain steady as a rock. The fact that the estimates of contractual savings in different years are practically constant with perhaps a slight upward trend provides, incidentally, some indirect confirmation that the survey method is not altogether unreliable. Many people of working age are providing for the future and average contractual savings are much larger, even, than total savings. Many others, a fair proportion of whom are retired or unoccupied, are obliged to eat into their past savings; but the extent to which they do so appears to be diminishing. ' Miscellaneous ' savings, of which business savings by the self-employed are probably the most important item, appear to fluctuate from year to year, but the apparent fluctuations may be partly due to sampling errors and the peculiar difficulties of collecting accurate information on this item.

Before the estimates of personal savings obtained from the Surveys are compared with those given in the National Income Blue Books, differences in definition should be eliminated. This is done by adjusting the Blue Book estimates of personal income and personal expenditure, the difference being the estimate of personal savings.[1] There are, however, several other factors which may disturb the comparison.

Firstly, the people interviewed in the Surveys were asked a large number of detailed questions about all forms of saving over the previous year. Inaccuracies can result from lack of knowledge or weakness of memory, or from an understandable tendency to gloss over some of the facts. Any such inaccuracies will affect the sampling errors but what is more important is that they are likely to bias the result (*cf.* the remarks on pages 131 and 132).

Secondly, although the adjustments made to the Blue Book figures to bring them into line with the definitions used in the Surveys are very substantial, they may not take account of all the differences in definition. One possible source of difference which is not taken into account is the treatment of depreciation, but it is not possible to say whether there is any difference or what its effect would be. This is because it is not clear whether self-employed persons, in arriving at their profits figures, use the statutory Inland Revenue allowances or some other method of allowing for depreciation. The adjustments made to the Blue Book figures were based on the statutory allowances (which include annual, initial and investment allowances).

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[1] The adjustments to the estimates of personal income are described above (page 121). The adjustments to the estimates of personal expenditure consist in deducting imputed expenditure on welfare foods, school meals, income in kind (other than produce from farms owned by the income unit and the rent of owner-occupied houses) and employers' National Insurance contributions; and adding employees' expenses allowed by the Inland Revenue, legal fees and other expenses connected with the transfer of property. The adjustments are made to the quarterly estimates wherever possible.

Thirdly, the effects on the Survey figures of the under-representation of the higher income groups and of certain occupational groups cannot be entirely eliminated by reweighting, mainly because we do not have sufficient information to be able to reweight simultaneously by income and occupation.

Fourthly, the Blue Book estimates of personal savings, being simply the differences between the estimates of two very large items (personal income and personal expenditure on consumption), must be about the least reliable of all the components of the national income.

The Survey estimates of average savings per income unit and their standard errors (shown in brackets), the implicit estimates of total personal savings and the same estimates reweighted by income ranges and occupational groups are shown in Table XXIII beside the adjusted Blue Book estimates.

TABLE XXIII

Estimates of Total Personal Savings

	Survey estimates				*Blue Book estimates*
	Averages per income unit £	*Unadjusted totals* £ *million*	*Totals reweighted by income* £ *million*	*Totals reweighted by occupation* £ *million*	£ *million*
1951/2	+ 2	48 (±94)	+133*	+ 47	148
1952/3	+ 5	120 (±65)	+148	+163	230
1953/4	+12	288 (±67)	+282	+230	300
1954/5	+10	240	+255	+272	260

* Excludes the adjustment for business saving, which would reduce the figure considerably.

Considering (or perhaps because of!) all the possible sources of discrepancy, the Survey estimates of personal saving do not differ all that much from the Blue Book estimates. The estimates reweighted by income and occupational groups are, on the whole, somewhat nearer to the Blue Book estimates than the unadjusted figures. The reweighting by income ranges produces closer agreement with the Blue Book estimates than the reweighting by occupations. In fact, in two years out of three the differences between the Survey estimates after reweighting by income ranges and the Blue Book estimates are less than £20 million. Which of these two sources provides the more reliable estimates we do not at present have enough information to say.

Both the Survey and the Blue Book estimates show savings rising between 1951/2 and 1952/3 and again the following year; the unadjusted Survey estimates and the estimates reweighted by income ranges agree with the Blue Book in showing a fall in savings between 1953/4 and 1954/5, but the Survey estimates after reweighting by occupational groups show a rise in savings in that period. The figures reweighted by occupational groups are equivalent to averages of £2, £6, £9, and £11 per income unit in the four successive years.

Table XXIV shows average savings of income units in different income and occupational groups, given by the Savings Surveys. Although there was a substantial increase in the average savings of the managerial and professional group between 1951/2 and 1954/5, the self-employed show by far the highest average savings of the different occupational groups in all four years, while inveterate dissavers are found mainly amongst the retired and unoccupied.

TABLE XXIV

Average Total Savings per income unit £

Income range £	*1951/2**	*1952/3*	*1953/4*	*1954/5*
50 — 99	— 16	— 19	— 61	— 14
100 — 199		— 10	— 9	— 5
200 — 299	— 4	— 4	— 2	— 5
300 — 399		+ 4	+ 2	— 3
400 — 499	— 2	— 4	+ 11	+ 6
500 — 599		+ 5	+ 9	+ 6
600 — 699	+ 5	— 1	+ 8	+ 15
700 — 799		— 12	+ 24	+ 3
800 — 999	+ 41	+ 19	+ 43	+ 22
1,000 — 1,499	+ 89	+ 65	+ 78	+ 43
1,500 — 1,999	+367	+132	+159	+118
2,000 + ...		+471	+429	+399
Occupation of head of income unit				
Self-employed	+108	+129	+80	+102
Managers and professional ...	+ 7	+ 23	+41	+ 51
Clerical	— 10	— 2	— 3	+ 10
Sales				
Skilled manual	+ 3	0	+12	+ 7
Unskilled manual	— 2	+ 3	+ 4	+ 4
Retired and unoccupied ...	— 21	— 15	—15	— 15
All groups	+ 2	+ 5	+12	+10

* It is not possible to correct the figures for different incomes ranges in 1951/2 for the change in the method of estimating business saving from 1953 onwards (see page 134) and the figures shown correspond to the recorded average for all groups of £4 per income unit.

Average savings per income unit are highest, as would normally be expected, in the top income range; and, except for those with incomes between £400 and £800 a year, there is a strong tendency for average savings to rise as incomes rise. The retired and unoccupied must account for a large proportion of those with incomes under £400 and their dissavings must pull down the average savings of those with incomes below £400, and to a lesser extent also of those between £400 and £800.

When average savings are plotted against gross income, as in Diagram I, it is surprising to find that the points fall nearly on a straight line. *A priori* one would expect a closer connection between savings and net income, i.e.

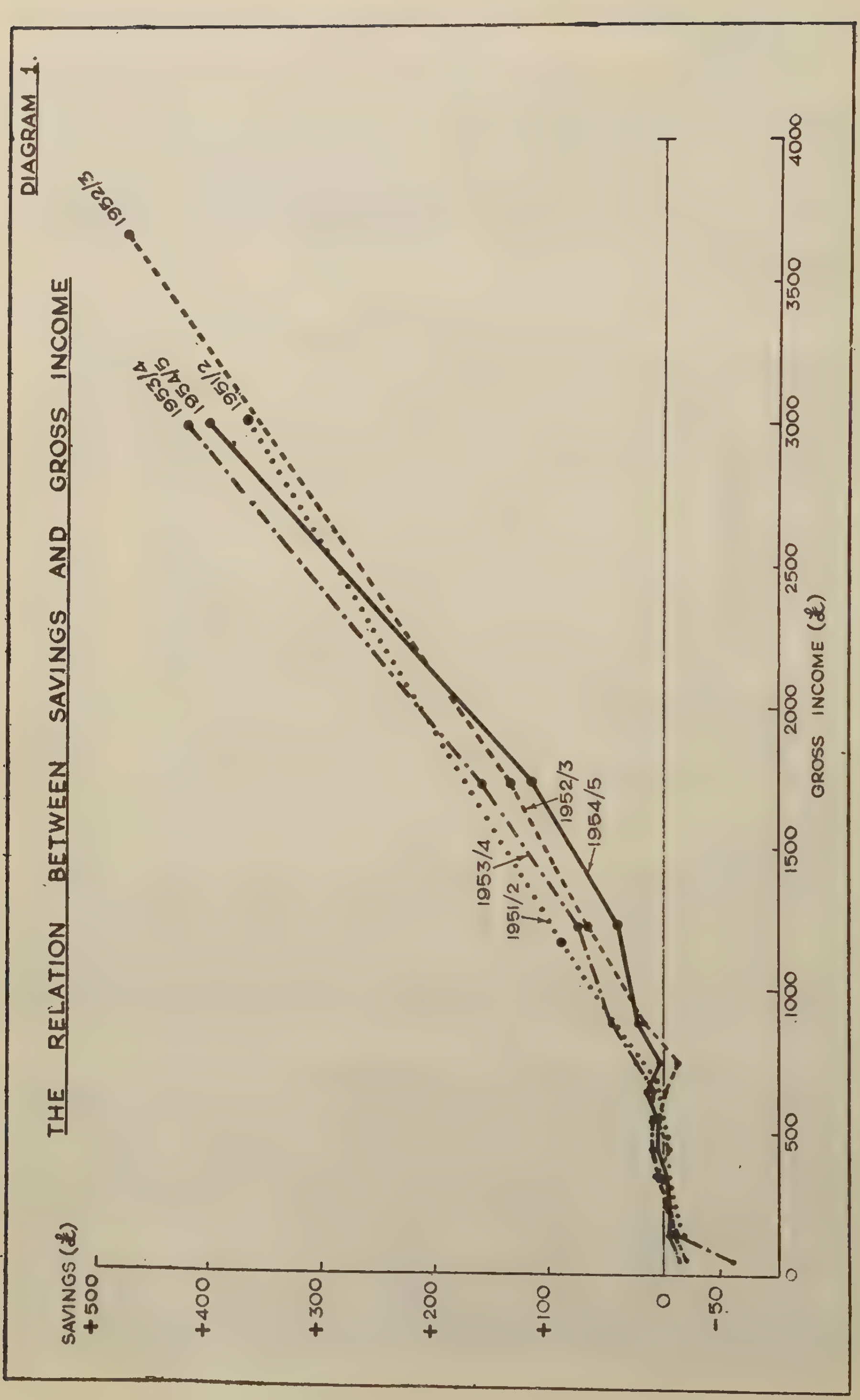

DIAGRAM 1.

THE RELATION BETWEEN SAVINGS AND GROSS INCOME after deducting income- and sur-tax.[1] The fact that the relation between savings and gross income is very similar in all four years provides, again, some confirmation that, whatever biases may be affecting the results, at least they are fairly consistent. But it must be remembered that the estimates for the top income range, which determine a large part of the lines shown in the Diagram, have large sampling errors.

Over the whole four year period the rate of saving was maintained, without rising appreciably, in the top income ranges,[2] but in the middle income ranges it fell. Over the whole period the effective rates of tax have decreased; substantial reductions occurred in April 1952 and there was a further reduction in April 1953. We have confined our attention to the relation between money savings and money incomes, but the picture would scarcely be altered if savings and incomes were both revalued at constant prices.

Table XXV shows the contributions of each income and occupational group (using the numbers in each group given by Inland Revenue and Census of Population data) to each type of savings and to savings as a whole.

Far the largest contributions to savings of all types are made by the self-employed and the managerial and professional groups, which include only 6 per cent and 8½ per cent respectively of the population. Though containing only 1 per cent of the population, the highest income range, which partly overlaps with the groups just mentioned, accounts in all years for more than half and sometimes for the whole of personal savings. Contractual savings are fairly evenly spread over all income ranges, the main contributions coming from the self-employed, the managerial and professional groups and skilled manual workers. People in all income groups allow their holdings of liquid assets to run down; and from time to time the retired and unoccupied and skilled manual workers seem to draw heavily on their holdings of liquid assets. Since business savings are the most important item in ' miscellaneous ' savings, it is not surprising that the self-employed make large contributions to this item, which is a source of dissaving by other groups.

VII. *The Distribution of Saving*

So far we have been mainly concerned with estimates of average and of total personal savings of different kinds. In this section we discuss the distribution of savings by size and the correlation between the level of savings on the one hand and the level of income or the type of occupation on the other.

Table XXVI shows the proportions of income units with different amounts of total savings. The distribution is remarkably stable over the period covered by the Surveys. Just over half the total number of income units did some saving in each year. The proportion who saved over £100 a year appears to have risen slightly, from about 5 per cent to about 7 per cent (the sampling errors, on these small numbers, are fairly substantial). About

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[1] Klein, *op. cit.*, page 180, shows the relation between savings and net income in the years 1951/2 to 1953/4. The net income figures for 1954/5 are not available.

[2] But the 1951/2 figures of savings in these ranges would be lower if business savings had been calculated by the method that was used in later years.

TABLE XXV

Contributions to Total Personal Savings of each income and occupational group — *£ million*

Income range £	*Contractual Savings*				*Change in Total Liquid Assets*				*'Miscellaneous' Savings*				*Total Personal Savings*†			
	1951/2	*1952/3*	*1953/4*	*1954/5*	*1951/2*	*1952/3*	*1953/4*	*1954/5*	*1951/2*	*1952/3*	*1953/4*	*1954/5*	*1951/2*	*1952/3*	*1953/4*	*1954/5*
0 — 99	6	4	17	5	− 80	− 29	− 17	− 7	− 40	+ 1	− 72	− 18	− 91	− 25	− 71	− 20
100 — 199	16	17	8	11		− 25	− 44	− 30		− 29	0	− 4		− 42	− 36	− 19
200 — 299	27	23	13	18	− 86	− 13	− 17	− 15	− 24	− 20	− 7	− 15	− 31	− 13	− 7	− 15
300 — 399	48	46	43	23		− 42	− 21	− 50		+ 4	− 11	− 26		+ 15	+ 7	− 9
400 — 499	62	51	53	45	− 96	− 44	− 20	0	− 42	− 59	− 17	− 24	− 12	− 15	+ 37	+ 21
500 — 599	66	59	70	59		− 70	− 36	− 20		+ 17	− 17	− 22		+ 14	+ 25	+ 17
600 — 699	40	45	52	55	− 90	− 49	− 10	− 14	− 12	+ 6	− 62	− 7	+ 12	− 2	+ 16	+ 34
700 — 799	30	36	45	54		+ 10	− 18	− 50		− 52	+ 6	+ 2		− 13	+ 31	+ 5
800 — 999	43	52	54	70		− 98	+ 14	− 12	+ 39	+ 67	− 15	− 20	+ 39	+ 20	+ 52	+ 37
1,000 — 1,499	49	56	61	54		− 43	0	− 51	+ 46	+ 31	− 3	+ 34	+ 52	+ 43	+ 61	+ 39
1,500 — 1,999	16	14	20	25	− 90	− 33	+ 15	− 3	+ 148	+ 47	− 2	+ 9	+ 164	+ 26	+ 33	+ 31
2,000 + ...	50	50	49	72		+ 64	− 149	+ 66		+ 31	+ 239	− 3		+ 140	+ 134	+ 134
All Groups*	453	453	485	491	− 442	− 372	− 303	− 186	+ 115	+ 44	+ 39	− 94	+ 133	+ 148	+ 282	+ 255
Occupation of head of income unit																
Self-employed	70	72	71	80	− 144	− 38	− 42	− 67	+ 236	+ 171	+ 88	+ 72	+ 163	+ 195	+ 121	+ 154
Managers and professional...	148	125	131	147	− 47	− 24	− 77	− 47	− 84	− 36	+ 15	+ 2	+ 14	+ 48	+ 83	+ 104
Clerical	46	43	48	34	− 38	− 33	− 69	+ 4	− 33	− 15	+ 8	− 18	− 25	− 5	− 7	+ 25
Sales				22				− 16								
Skilled Manual	123	129	162	176	− 73	− 170	− 18	− 9	− 25	+ 8	− 45	− 93	+ 25	0	+ 108	+ 65
Unskilled Manual	39	40	28	38	− 16	− 36	0	+ 23	− 31	+ 4	− 18	− 47	− 8	+ 12	+ 12	+ 11
Retired and unoccupied ...	29	29	17	23	− 134	− 59	− 41	− 87	− 23	− 70	− 110	− 24	− 122	− 87	− 87	− 87
All groups*	455	438	457	520	− 452	− 360	− 247	− 199	+ 40	+ 62	− 62	− 108	+ 47	+ 163	+ 230	+ 272

† The totals in these columns are not equal to the sum of the components for reasons given on p. 137.
* The two sets of figures shown for all groups do not agree because they are based on different methods of reweighting.

30 per cent of income units, on the other hand, allowed their savings in each year to run down.

Similar stability is apparent in the distributions of contractual savings, National Savings[1] and 'miscellaneous' savings (see Table XXVI). The proportions of income units with different amounts of contractual savings

TABLE XXVI

Distribution of income units by different types of savings *Percentage of income units*

		1951/2	*1952/3*	*1953/4*	*1954/5*
			Total Savings		
Dissavings:	£200 and over	2.6	3.1	2.4	1.9
	£100 — 199	3.3	3.0	2.0	3.7
	£50 — 99	4.5	4.9	5.6	5.9
	£25 — 49	6.6	6.5	5.2	7.9
	£1 — 24	12.0	11.7	13.0	11.8
Nil*	... ...	13.3	11.1	11.9	9.3
Savings:	£1 — 24	33.8	34.8	31.2	29.8
	£25 — 49	9.6	10.3	10.9	9.4
	£50 — 99	6.2	6.9	7.9	9.3
	£100 — 199	2.7	3.5	4.9	4.1
	£200 and over	2.2	2.1	2.8	3.0
Don't know		3.2	2.1	2.4	4.0
			Contractual Savings		
	Nil* ...	25.6	24.5	25.3	23.7
	£1 — 4	14.6	15.6	14.6	14.1
	£5 — 9 ...	15.7	14.8	12.9	14.9
	£10 — 19 ...	18.1	18.9	17.0	16.1
	£20 — 29 ...	9.2	10.5	10.2	9.9
	£30 — 39 ...	5.3	5.2	5.5	6.5
	£40 — 49 ...	2.7	3.1	4.8	4.2
	£50 — 99 ...	6.4	4.5	6.4	7.3
	£100 and over	2.4	2.8	3.2	3.1
Don't know		—	0.1	0.2	0.4
			Change in National Savings		
Dissavings:	£50 and over	7.9	7.1	5.6	7.3
	£20 — 49 ...	5.0	4.5	5.4	4.9
	£1 — 19 ...	7.8	5.8	8.2	7.9
Nil*	... ...	62.1	57.4	53.6	53.4
Savings:	£1 — 19 ...	9.4	16.1	16.4	14.2
	£20 — 49 ...	3.3	3.2	5.3	4.6
	£50 and over	3.0	4.7	4.7	6.0
Don't know		1.5	1.1	0.7	1.7
			'Miscellaneous' Savings		
Dissavings:	£100 and over	3.6	3.9	4.3	4.9
	£20 — 99 ...	9.8	19.1	12.6	16.4
	£1 — 19 ...	10.2		13.7	12.1
Nil*	... ...	61.4	60.8	53.6	49.8
Savings:	£1 — 19 ...	5.3	13.4	6.1	5.7
	£20 — 99 ...	5.3		6.5	7.1
	£100 and over	3.7	2.6	3.1	3.4
Don't know		0.7	0.2	0.3	0.6

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* A change of less than 10 shillings in either direction is counted as nil.

[1] Corresponding figures for other liquid assets are not yet available for 1954/5.

show, as would be expected, little change from year to year. But the proportions contributing different amounts to National Savings are also surprisingly stable. The proportion saving more than £20 in this form has, however, risen steadily over the period.

Table XXVII shows the proportions of income units within each income range and within each occupational group having different amounts of savings or dissavings in 1954/5, as recorded in the Survey. Amongst those who dissaved, there is only a small positive correlation between the amount of dissavings and the level of income; small dissavings are mainly concentrated in the lowest income ranges but large amounts of dissavings are found at all levels of income, with only a slight concentration in the high income ranges. Amongst those who saved, on the other hand, there is clearly a strong positive correlation between the amount of savings and the level of income. Over 60 per cent of those with more than £2,000 a year and about 45 per cent of those between £1,500 and £2,000 saved £100 or more. At the other end of the scale, under 3 per cent of those with between £500 and £600—and fewer in the lower income ranges—saved more than £100.

Each of the seven occupational groups contained a fair proportion of people who dissaved, but the proportion of retired and unoccupied who dissaved (38 per cent) is a good deal higher than that of any other group. Only the managerial and professional group and the self-employed contained more than a few per cent who saved over £100. The difference between any income or occupational group and the average is seen by comparing any line in the table with the bottom line, which shows the distribution for all groups combined.

VIII. *Some General Conclusions*

The Surveys call for considerable efforts and a great deal of patience on the part of those who are willing to co-operate. Each person is expected to be familiar with the full details of his financial situation at the time of the interview and also to remember a good deal about his situation twelve months previously. And so it is not surprising that a fair proportion of the people who are approached decline to co-operate. Those who co-operate may not be fully representative of the whole sample; and, although rough corrections can be made for the low response rates in broad income and occupational groups, the effects of any bias cannot be entirely removed since those within any income or occupational group who co-operate may not be altogether typical of all the people in that group. It is fairly certain, also, that some of those who do co-operate are unable, or possibly unwilling, to give the full facts about their financial situations (see pages 127–9; 132–4).

There can be no doubt, however, that a good deal of the information obtained is reasonably full and accurate. It is seldom that we have accurate independent estimates against which to check the Survey data; and, although there are some discrepancies for which it is not always possible to provide reasonable explanations, the comparisons that can be made are usually incon-

TABLE XXVII

Distribution of income units by Total Savings in each income and occupational group in 1954/5. *Percentage of income units*

Income range £	*Dissavings*					*Nil**	*Savings*					*Don't know*	*Total*
	£200 and over	*£100–£199*	*£50–£99*	*£25–£49*	*£1–£24*		*£1–£24*	*£25–£49*	*£50–£99*	*£100–£199*	*£200 and over*		
50 — 99	1.4	0.5	5.8	11.0	15.5	32.6	28.9	2.1	0.3	—	—	1.9	100
100 — 199	—	1.6	5.7	6.8	15.7	20.9	42.1	2.9	0.6	0.9	—	2.8	100
200 — 299	—	1.4	8.5	9.4	15.5	15.6	37.9	6.2	2.4	0.8	—	2.3	100
300 — 399	1.4	3.3	4.2	3.2	14.7	10.0	40.0	11.9	6.9	0.7	—	3.7	100
400 — 499	1.3	2.4	6.6	9.4	12.4	5.3	31.6	11.5	10.5	2.9	1.4	4.7	100
500 — 599	2.1	4.3	4.2	9.4	9.1	2.3	34.5	14.1	14.8	2.5	—	2.7	100
600 — 699	1.9	5.7	4.6	10.3	8.4	4.7	21.4	15.6	16.9	4.6	2.5	3.4	100
700 — 799	3.3	4.3	6.9	11.1	9.7	1.0	19.4	10.2	18.6	7.9	3.6	4.0	100
800 — 999	5.0	9.6	6.4	3.9	8.9	—	13.7	12.8	12.8	14.6	6.7	5.6	100
1,000 — 1,499	7.4	5.1	7.6	2.0	5.9	1.7	5.2	5.1	14.1	16.0	21.1	8.8	100
1,500 — 1,999	1.2	10.2	8.7	7.6	—	—	1.5	—	6.4	17.8	28.8	17.8	100
2,000 + ...	3.2	8.3	1.1	—	—	—	—	1.1	2.2	9.3	51.8	23.0	100
Occupation of head of income unit													
Self-employed	6.1	1.3	6.2	8.3	2.6	3.8	7.5	6.3	9.8	8.3	27.6	12.2	100
Managers and professional	5.6	7.2	3.7	7.2	3.7	1.0	7.1	9.6	17.9	16.4	12.7	7.9	100
Clerical	1.1	3.2	5.6	8.0	11.9	7.2	23.9	9.1	17.1	7.4	1.7	3.8	100
Sales	5.6	2.0	0.2	8.1	13.3	1.8	40.3	9.0	12.6	2.0	1.0	4.1	100
Skilled manual	0.7	4.5	5.8	7.2	13.4	5.5	29.3	14.5	11.4	3.5	1.3	2.9	100
Unskilled manual	1.9	0.9	3.7	5.5	11.0	14.7	44.4	9.8	6.0	1.2	—	0.9	100
Retired and unoccupied	1.1	3.2	9.1	10.6	13.7	19.2	35.2	1.3	1.0	0.8	0.2	4.6	100
All groups	1.9	3.7	5.9	7.9	11.8	9.3	29.8	9.4	9.3	4.1	2.9	4.0	100

* A change of less than 10 shillings in either direction is counted as nil.

clusive. But the direction, at least, of any change in savings is generally confirmed by the independent estimates. There is, too, a remarkable consistency between the results obtained from the four Surveys, particularly on the distribution of savings by size, by type of savings, by income ranges, and on the relative contributions of different groups of the population. The high concentration of savings in a small section of the population is one reason why the estimates of total savings derived from relatively small samples are unreliable. These small samples have nevertheless provided valuable information about the composition and distribution of savings and also about year-to-year changes in the level of savings.

The main findings of the four Surveys may be summarised as follows:

(1) Far the largest contributions to personal savings are made by those with incomes over £2,000 a year and by the self-employed (these two groups partly overlap). The managerial and professional classes also made a substantial contribution in 1953/4 and 1954/5 (pages 141 and 143).

(2) Holdings of liquid assets are largest among the higher income groups, the self-employed and the managerial and professional classes. Many of the retired and unoccupied also have large holdings of liquid assets and this enables them to dissave on a large scale (pages 129–130).

(3) Contractual savings (premiums on life assurance policies, superannuation contributions, and mortgage repayments) are the largest and the most stable form of personal saving (page 131).

(4) The proportion of gross income saved in each income range remains remarkably stable from year to year, even when the rates of income tax have changed (pages 141–143).

(5) The distribution of savings by size, and the distributions both by income ranges and by occupational groups, show little change from one year to another (pages 143–146).

Central Statistical Office,
London.

APPENDIX

This Appendix sets out the detailed definitions of (1) income, (2) liquid asset holdings and (3) savings, with brief indications of the methods of estimation and the accuracy of the data, and also gives details of (4) the classification of occupations.

(1) INCOME

Gross income is the total income from all sources before taxation. Income in kind is excluded, with two exceptions—farm produce from farms belonging to the income unit and the imputed rent of owner-occupied houses. Income may come from several sources and may be classified as follows:

(*a*) *Employment income* consists of total earnings during the previous twelve months, including overtime pay, bonuses, commissions, income from odd jobs, tips, etc. If this was not known, the informant was asked to state the amount last received and to give information (whether this was more or less than he normally received and if so by how much, whether his rate of pay had changed during the year, the number of weeks that he was away from work, etc.) from which an estimate could be made of his annual earnings. Pensions from former employers were also classified as employment income.

(*b*) *Gross business income* is defined as total receipts from sales less depreciation and expenses allowed for income tax. If the total receipts and expenses were not known, the informant was asked to state the profits for the accounting period which ended within the last twelve months. If this was also not known, he was asked to give an estimate of his profits; this was sometimes based on the profits received in the previous year and a rough estimate of the change since then, and sometimes on the amount paid in taxation. Many of the self-employed had only a rough idea of how much they earned; consequently the figures of business income are some of the least accurate data obtained from the Surveys.

(*c*) *Property income* includes interest of all kinds plus dividends on all types of stocks and shares, income from annuities, income from boarders after deduction of an arbitrary proportion (three-quarters) for expenses and income from rents after deducting rates and repair allowances.

(*d*) *Government transfers* includes National Insurance and Old Age Pensions, National Assistance, Unemployment and Sickness Benefit and all other forms of Government transfers to persons, with the exception of Post-war credits, which should, however, have been included. (See the remarks on ' miscellaneous ' savings.)

(*e*) *Other income* of any kind, including private transfers.

All questions were concerned with gross income but, if only net income was given, it was converted to gross income by taking into account the particular circumstances of the individual, the type of income and the current tax rates. All cases where the income could not be ascertained were excluded from the results.

For all types of income, informants were asked to state the amounts actually received in a specified period.

(2) Holdings of Liquid Assets

Liquid assets consist of the following:

(i) Deposits in Post Office Savings Banks,
(ii) Deposits in Trustee Savings Banks,
(iii) Savings Certificates,
(iv) Defence Bonds,
(v) Deposits in other Savings Banks,
(vi) Building Society Shares and Deposits,
(vii) Shares and Deposits in Co-operative Societies,
(viii) Ordinary Bank Deposits.

The first four headings are included in the term ' National Savings '. Interest on any of these assets is counted as part of property income. Where the holdings of any liquid assets are known, the interest on them can be calculated with accuracy and included in income. But since interest on Savings Certificates is not paid until the Certificates are cashed, it cannot easily be calculated and is therefore ignored.

The holdings of persons who were known to have some of these liquid assets but were not willing to disclose the amounts were assumed to be the same as the average holdings of persons of the same age, occupation and income.

(3) Personal Savings

The three main types of savings—contractual savings, changes in liquid assets and ' miscellaneous ' savings—are defined as follows:

(a) *Contractual Savings* consist of :
(i) Premiums on life assurance and endowment policies,
(ii) Contributions towards superannuation funds,
(iii) The repayment of mortgage debt.

The whole premium on a life assurance or endowment policy is taken as savings. Where the repayment of mortgage debt included interest payments as well as the repayment of principal it was possible to estimate the amounts attributable to each from information obtained about the length of the mortgage, the number of years still to run and the rate of interest charged. Interest payments on mortgages, being a charge for a current service, are not counted as part of savings; but the income tax allowance on the interest is taken into account when converting gross income to net income or vice versa.

(*b*) *Changes in liquid assets* are the differences between the holdings at the time of the Survey and the holdings twelve months previously of the liquid assets listed above.

(*c*) ‘*Miscellaneous*’ *savings* consist of the following items:

(i) Savings of unincorporated businesses, which in the 1955 Survey were taken as net business profits minus drawings for living expenses, and in the three earlier Surveys were taken as the amount of investment in one’s own business or farm, including the ploughing back of profits. The purchase of a new business or farm is included in business saving. Any increase in the market value of the business or farm is ignored,

(ii) Land or buildings bought during the year, excluding legal and other costs of purchase,

(iii) Expenditure on physical additions to property owned by the income unit, excluding repairs, replacements and decorations,

(iv) The purchase of stocks and shares, excluding brokerage, etc.,

(v) Money paid for the purchase of an annuity,

(vi) Gifts or loans made to others,

(vii) Reductions in debts outstanding, e.g., reduction of overdrafts, repayment of hire purchase debts on goods bought before the year in question, reduction of debts to retailers, reduced tax liability in respect of surtax compared with one year previously.

Most of the above items of positive savings have their negative counterparts. The following items, for the reasons mentioned below, have also been treated as dissavings:

(viii) A lump sum from a legacy,

(ix) Benefits from a life assurance or endowment policy,

(x) Post-war credits,

(xi) The proceeds of sales of durable goods in excess of purchases.

Since a lump sum from a legacy, which is simply a transfer within the personal sector, causes the estimates of savings to be higher than they would otherwise be, it is necessary to offset this by counting it as dissavings. The whole of the premiums on life assurance or endowment policies are counted as savings and so the benefits from such policies are counted as dissavings.

Post-war credits were regarded as a capital transfer and not as part of income; and, as they would otherwise cause an increase in the savings figures, they were counted as dissavings. But since they are transfers from the Government they are more appropriately included, as they are in the Blue Book, in the income of the personal sector and need not therefore have been counted as dissavings. For purposes of comparison this small item (£18 million in 1955) was deducted from the Blue Book estimates of income.

Sales of durable goods in excess of purchases are a very small item. But since purchases of durable goods in excess of sales are treated as current expenditure, it would have been more appropriate to treat any excess of sales over purchases as negative expenditure than as dissaving.

In the published results of the previous surveys, any excess of winnings over losses during the year from any form of betting was treated as dissaving, on the grounds that winnings, though not part of current income, cause the estimates of savings to be higher than they would otherwise be. The Blue Book estimates were similarly reduced by the estimated winnings from football pools, which were assumed to account for most of the excess of winnings over losses from betting. But winnings from betting are transfers within the personal sector and any increase in the savings of those who win is offset by reductions in the savings of those who lose. It thus appears to have been incorrect to treat the excess of winnings over losses during the year as dissaving. In the estimates given in this report, winnings from betting have not been treated as dissaving, except in Tables XXVI and XXVII showing the distribution of savings by size (where the effect must be small as only about 2½ per cent of income units received winnings in excess of losses from betting during the year). The modification of these estimates was impossible without re-examining the individual schedules. The estimates from the 1952 Survey of the distribution by income ranges and occupational groups were also left in the old form.

(4) OCCUPATIONAL CLASSIFICATION OF INCOME UNITS

Income units were classified according to the occupation of the head of the income unit. Occupations were recorded in as much detail as possible and were classified as follows:

(i) *Self-employed*, including employers, farmers and those in businesses or professions on their own account,

(ii) *Managers and Professional*, including managers, professional, administrative, executive and technical employees, office supervisors, works foremen (but not shop foremen),

(iii) *Clerical and Sales*, including typists, shop assistants, salesmen, inspectors and junior executive employees,

(iv) *Skilled Manual Workers*, including manual workers engaged on work which requires special training or acquired skill and responsibility for a process or operation, shop foremen and charge hands and semi-skilled improvers and apprentices.

(v) *Unskilled Manual Workers*, including manual workers whose occupation can be performed without vocational training, acquired skills or any considerable degree of knowledge.

(vi) *Retired and Unoccupied*, including all those not gainfully occupied, housewives, students and unemployed persons.

Some of these divisions are, of course, somewhat arbitrary.

THE FINANCE OF SMALL BUSINESS[1]

By JAMES A. BATES

Small companies still play an important part in the British economy: and, notably since the publication of the Macmillan report in the 1930's, government and economists have been interested in their behaviour in general, and have been concerned in particular with the financial aspects of their activities. Specialised financial institutions, such as I.C.F.C., bear witness to this concern, and there have been many attempts at factual analysis of the financial behaviour of small firms. The most fruitful sources of information are the accounts of the companies.

But under the Companies Act of 1948, private companies have to make public very little information from their accounts, and are exempt from the provisions of the Act which require public companies to submit balance sheets[2]; in consequence this is a sector of the economy whose financial dealings cannot be analysed from hitherto published data. Some information is available from the Reports of the Commissioners of Inland Revenue[3] and from Census of Production data, but it is not possible to learn much about actual financial behaviour of small firms from these sources.

Far more is known about the public companies, particularly since the 1948 Act, and *The Economist* and *The Financial Times* regularly publish aggregates of the accounts of such companies. This information has recently been supplemented by the publication of preliminary results of a study of quoted public companies carried out by the National Institute of Social and Economic Research.[4] But of private companies little is known.

In an attempt to remedy part of this deficiency, the Institute of Statistics carried out a survey of small manufacturing business during 1956.[5] One of the objects of the Survey was the collection of accounting information.[1] Of 1,077 firms which gave interviews and whose answers were used in the analysis, 335 gave access to their balance sheets and profit and loss accounts; a further 182 answered questions designed to discover the structure of their accounts, and a total of 991 firms answered questions about their financial experience during the period 1950–56.

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[1] A preliminary report on a survey of small manufacturing business. I am indebted to Mr. F. A. Burchardt and Mr. G. D. N. Worswick, who read an early draft of the article and made invaluable comments.

[2] See '*Companies Act, 1948*' 11 and 12 Geo. 6, Chapter 38, particularly paragraphs 124–129 and the Sixth Schedule to the Act.

[3] See, for example, '*One Hundredth Report of the Commissioners of Her Majesty's Inland Revenue*' (Cmnd. 341), particularly Tables 181–194, pp. 159–165.

[4] '*Company Income and Finance, 1949–1953.*' National Institute of Economic and Social Research, November 1956. I have benefitted a great deal from discussion with members of the research team concerned with the N.I.E.S.R. study (in particular Professor Brian Tew and Dr. R. F. Henderson). I have also been privileged to see early drafts of parts of *Studies in Company Finance* (a forthcoming book which will be concerned with the closer analysis of the accounts of the quoted public companies of the N.I.E.S.R. study) and this has been of considerable value to me in the preparation of this paper.

[5] The Survey was financed by a grant made under the Conditional Aid Scheme for the use of counterpart funds derived from United States Economic Aid; and was planned and executed by a team consisting of Mr. H. F. Lydall, Mr. M. J. Stewart and the present writer.

Analysis of financial information was carried out under my direction, and responsibility for the present analysis is mine alone.

For further information about the Survey, see :

H. F. Lydall, 'The Impact of the Credit Squeeze on Small and Medium Sized Manufacturing Business', *Economic Journal*, September 1957.

J. A. Bates: 'Hire Purchase in Small Manufacturing Business'. *Bankers' Magazine*, September and October 1957.

The first stage in the analysis of such information is the examination and description of the aggregate accounts of the firms. That is the purpose of the present paper. Further and more detailed analysis of various aspects of financial behaviour is proceeding, along lines which are indicated later: the present analysis stops short at description of the salient features of the accounts.

Composition of the Sample

Of the 335 firms giving full accounts, 49 were sole owners or partners, and 286 were private companies. All firms were asked to provide balance sheets and profit and loss accounts for the last two years which were available, and it was hoped in this way to obtain information relating to three accounting dates.[2] Response to this request varied, and just over half of the respondents gave the information requested (*i.e.* two years' accounts).

Since these years referred to different accounting dates, and since the time range was effectively from 1951 to March 1956, some combination of these accounts was necessary. For present purposes, since the main interest lies in sources and uses of finance over a period of years, firms which gave accounts for one year only have been omitted from the analysis. Firms whose accounts related to the period before March 31st, 1953 were also omitted (there were only seven of these and it was felt that an analysis of these would be of little value at present).

Table I shows the composition of the sample and response rates by industry groups (as defined in the Standard Industrial Classification).[3] The groups ' Furniture ' and ' Chains, nails ' refer to special samples drawn for the purposes of more detailed analysis. Of the industry groups only four (Engineering, Metal manufacture, Clothing, and Paper and Printing) contain sufficient cases to warrant closer analysis in the present paper. Although response rates to the questionnaire (schedule information) were of the order of 62 per cent, the overall response rate for full accounts was only 18 per cent, with few significant differences between industries. The sample finally available for analysis is shown in Table II.

This is too small a sample to be truly representative of small manufacturing business as a whole. Possibility of bias in the Survey has been fully discussed

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[1] The interview was in two stages. In the first stage the interviewer asked questions about the general behaviour of the firm; in the second stage an attempt was made to find out about financial behaviour.

[2] One of the provisions of the 1948 Companies Act is that companies should provide on the published balance sheet comparable figures for the previous year. Hence balance sheets for two years should provide information relating to three accounting dates, but in practice some of our firms did not show comparable figures for the previous year.

[3] See Lydall, *op. cit.* for details of exclusions from the industry groups.

TABLE I

Composition of Sample by Industry

Industry[1]		*Interviews attempted*	*Successful*[3] *interviews*	*Response rates (%)*	
				Schedule information	*Accounts*
3	Bricks, concrete, etc. ...	42	8	64	19
4	Chemicals	56	9	55	16
5	Heavy metal manufactures	50	6	50	12
6	Engineering	276	58	64	21
7	Vehicles	70	9	53	13
8	Metal manufactures ...	279[2]	41	63	17
9	Precision instruments ...		6		
10	Textiles	154[2]	16	69	12
11	Leather goods		3		
12	Clothing	282	50	62	18
13	Food and drink	70	12	57	17
14	Wood products	59	5	59	9
15	Paper and printing ...	154	36	59	23
16	Miscellaneous	50	11	68	22
		1,542	270	62	18
Furniture		183	30	55	16
Chains, nails, etc.		169	31	59	18
B/S not given[4]		—	4	—	—
Total		1,894	335	62	18

[1] Numbers correspond to the Standard Industrial Classification.

[2] In analysis of the schedule information these industries were grouped and treated as one. They are treated individually in the financial analysis.

[3] *i.e.* full Accounts provided. [4] *i.e.* profit and loss account provided, balance sheet not given.

TABLE II

Sample Available for Analysis

Size Groups	*1953–1954*		*1954–1955*		*1955–1956*	
Companies only:	*No. of firms*	*Total assets (1954) (£000)*	*No. of firms*	*Total assets (1955) (£000)*	*No. of firms*	*Total assets (1956) (£000)*
Size group I (Net assets less than £5,000)	30	573	82	1,792	66	1,505
Size group II (Net assets £5,000—£24,999)	17	151	33	276	27	258
Size group III (Net assets £25,000—£99,999)	25	1,776	53	3,766	38	2,652
Size group IV (Net assets £100,000 and over)	9	2,977	29	13,394	20	10,315
Industry						
Engineering (E)	13	845	43	3,161	35	2,559
Metal goods (M)	16	873	27	1,393	17	616
Clothing (C)	9	274	24	871	25	743
Paper and Printing (P.)	7	214	19	771	17	885
Other	36	3,272	84	13,085	57	9,926
All Companies	81	5,477	197	19,281	151	14,729
Sole owners and partners	12	76	17	121	11	69
Total	93	5,553	214	19,402	162	14,798

elsewhere,[1] and most of the considerations applying to the sample as a whole apply even more forcefully to the smaller group of firms discussed here. But whilst it would be unwise to claim that the financial experience of these firms was truly representative, it was probably not untypical of small manufacturing firms. Since manufacturing firms employing from 11 to 99 persons account for 20 per cent of total employment in the U.K.,[2] (and firms with under 500 employees account for 52 per cent) the results should not be without interest.

The Form of the Accounts

It was necessary to obtain a series of accounts for comparable sets of firms for the time periods chosen. Thus the accounts of all firms which gave balance sheets for two or three years were used, and in each case the balance sheets for two successive years were edited and standardised. Although companies do present their accounts in a variety of ways, most of the balance sheet entries could in fact be put into standardised categories without any significant loss of detail.

Thus, for each two year period 1953–54, 1954–55 and 1955–56 it was possible to obtain aggregate accounts for the firms which gave us balance sheets for those periods. From these accounts it was then possible to derive statements of sources and uses of funds. One of the shortcomings of the use of published aggregates such as appear in *The Economist* and *The Financial Times* is that actual (as opposed to book keeping) money flows cannot be determined, and the object of the next stage of the analysis was to sort out the actual and money flows, and finally to show a statement of the genuine transactions of the companies concerned. This involved detailed analysis of the accounts themselves; most of the information can be extracted from a detailed examination of changes in reserves, supplemented by other notes in the accounts. Thus, for example, a bonus issue of shares (which appears on the balance sheet as an increase in issued capital and a corresponding fall in reserves) in fact involves no movement of funds into the company from outside, and it is accordingly eliminated from the sources and uses statement. Upward revaluation of assets does not add to the fixed assets of a company and does not entail any flow of funds, and has to be similarly removed. Changes in assets also need to be adjusted for profits or losses on the sales of the assets (this applies particularly to motor vehicles). A whole series of such adjustments was necessary, and after these had been carried out, the changes in balance sheets in successive years represent actual flows of funds under the main headings in the balance sheet. Remaining changes in reserves are then due mainly to retained profits, presented separately in the sources and uses statement; other unexplained residuals are due either to unexplained capital receipts or other expenditures and these are also presented separately as ‘ other capital receipts and profits ’, ‘ other capital payments ’, and ‘ residual differences and adjustments ’ (a small proportion of the last is also due to rounding adjustments).

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[1] *Ibid.* [2] *Annual Abstract of Statistics, 1957.* Table 150, p. 129.

The dates chosen are not those on which the balance sheets appear, but relate to the year of operation of the company.[1] Financial years, ending on March 31st have been used.

Presentation[2]

The balance sheet statements for the end of the year follow a fairly well established pattern, showing on the one hand capital, reserves and liabilities, and on the other total assets. Profit and loss accounts show deductions from total profits and reach an eventual figure showing transfers to reserves. Certain items of a capital nature, such as profits on sale of fixed assets, are excluded in order to ensure that the account refers solely to income transactions. Sources of funds are divided into total capital issued, change in credit received, and additions to reserves; uses of funds are presented as funds devoted to operating assets and changes in liquid assets. The sources of funds may be looked upon as funds from all sources becoming available for expenditure during the year, but there are two distinct aspects of uses of funds. It is desirable to distinguish between funds used for operating assets and changes in liquid assets. Operating assets comprise tangible fixed assets and stocks (changes in which represent material investment) plus intangible assets, trade investments and debtors (or accounts receivable). These are the assets strictly necessary for the day to day operation of the firm, liquid assets being held for a variety of reasons (marketable securities for example being largely a way of using surplus funds to earn income). It may be argued that according to this 'operational' classification, cash is an operational asset, but it is excluded largely because the total may fluctuate for reasons which have little to do with the operation of the firm.

Finally a distinction is drawn between sole owners and partners on the one hand and companies on the other; sole owners and partnerships being treated as one type of legal form for present purposes. The distinction is necessary mainly because sources of funds must be differently classified: the sole owner or partnership naturally does not have share capital, and relies for the capital type of finance on its own resources and new partners. In many ways this sort of finance is very similar to use of reserves and new issues, but for convenience it has been treated separately in these accounts. The transition from sole owner or partnership to company status is in itself of interest to economists, and it is hoped to analyse a few examples of this at a later stage.

THE FINANCIAL EXPERIENCE OF SMALL BUSINESS

It it not the purpose of the present article to examine in detail the financial experience of the 335 firms which contribute to the aggregate tables, but it is interesting to study in broad outline the salient features of the accounts. Certain comparisons are made between industries and size groups, and these refer to the groups as shown in Table II earlier; but until more detailed

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[1] *The Economist* balance sheet aggregates refer to the date when the balance sheets were published. [2] See also Appendix B.

TABLE III

Balance Sheet Structure, year ending March 31st, 1954
Percentage of Total Assets

Balance Sheet item	*Size Group*[1]				*Industry*[2]				*Total*		*NIESR*[6]
	I	II	III	IV	6	8	12	15	s/o	Cos.	
No. of firms	82	33	53	29	43	27	24	19	17	197	2,106
Ordinary shares	19.7	20.9	20.4	18.1	25.7	23.3	20.0	18.6	*	18.7	18.9
Preference shares ...	1.8	2.1	4.3	6.8	7.2	0.2	5.6	4.4	*	5.8	8.0
Issued Capital	21.5	23.0	24.7	24.9	32.9	23.5	25.6	23.0	*	24.5	26.9
Capital & revenue reserves	32.0	—	34.1	31.2	27.6	40.3	35.4	32.6	*	31.4	33.5
Future tax reserves ...	3.1	0.2	2.9	5.2	5.4	2.7	2.5	1.9	*	4.5	5.1
Total Capital & Reserves	56.6	23.2	61.7	61.3	65.9	66.5	63.5	57.5	38.8[3]	60.4	65.5
Long term liabilities ...	1.5	2.4	3.9	3.6	1.6	3.7	2.0	3.6	3.2	3.5	9.2
Bank loans	4.2	14.0	6.9	6.0	4.7	0.9	5.0	13.4	6.0	6.2	2.7
Directors/partners loans	8.7	12.0	1.7	0.4	2.0	2.3	2.8	5.5	0.1	1.5	—
Other loans	2.7	14.8	1.7	0.3	1.7	2.7	1.3	1.1	11.3	1.0	—
Total loans	15.6	40.8	10.3	6.7	8.4	5.9	9.1	20.0	17.4	8.7	2.7
Trade creditors	22.9	32.5	16.5	22.2	16.9	16.4	19.0	15.3	40.7	21.3	13.7
Other[4]	3.4	1.1	7.6	6.2	7.1	7.5	6.4	3.6	—	6.2	8.9[7]
Current Liabilities ...	41.9	74.4	34.4	35.1	32.5	29.8	34.5	38.9	58.0	36.1	25.3

Land and buildings ...	9.5	6.8	13.1	10.7	15.8	12.8	7.5	20.3	6.8	11.0	*
Plant and machinery ...	17.4	21.5	13.9	9.3	8.8	13.7	8.3	20.9	24.1	11.0	*
Other fixed assets ...	3.5	3.6	2.3	0.9	1.9	2.3	3.1	3.2	5.2	1.4	*
Tangible Assets ...	30.4	31.9	29.3	20.8	26.5	28.8	18.9	44.4	36.1	23.4	33.7
Intangible assets ...	2.0	1.8	0.3	0.3	0.5	0.7	0.4	1.0	—	0.5	2.4
Trade investments ...	0.8	0.6	2.7	10.2	6.7	1.8	2.3	3.3	6.2	7.8	2.3
Total Fixed Assets ...	33.2	34.3	32.3	31.4	33.7	31.3	21.6	48.8	42.3	31.7	38.4
Stocks & work in progress	22.0	33.6	28.3	40.0	27.0	21.7	39.5	14.8	14.8	36.2	30.4
Trade debtors	32.0	26.2	25.2	20.7	23.9	26.7	23.0	25.8	36.6	22.6	17.8
Liquid assets[5]	12.8	5.9	14.2	7.9	15.4	20.3	15.9	10.6	6.3	8.5	13.4
Current Assets ...	66.8	65.7	67.7	68.6	66.3	68.7	78.4	51.2	57.7	68.3	61.6
Total Assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] For definition of size groups, see Table III.

[2] For definition of industry, see Table II. Numbers refer to Standard Industrial Classification.

[3] Owners' capital at end of period.

[4] Dividends, interest and current taxation.

[5] Securities, tax reserve certificates and cash.

[6] Manufacturing industry (S.I.C. Groups 1–16).

[7] Including 'provisions'.

* Signifies 'does not apply' or 'not available'.

— Signifies nil.

analysis is undertaken it would be wise not to attribute too much importance to any such comparisons.

The Balance Sheet

The structure of most of the balance sheets of the companies is remarkably similar, with few differences between years. Table III shows a comparison between our main groups for the year ending March 31st, 1954 (this being the year in which the sample used is largest). The structure of the balance sheet of the 2,106 public companies of the N.I.E.S.R. analysis is also given and refers to the same date.

The ratio of issued capital to total assets is very similar in the private and public company sectors, but, as one would expect, there is a distinct preference for ordinary share capital in the smaller companies. The ratio of issued capital to net assets[1] is 38.5 per cent in survey firms, and 36.0 per cent in public companies—again very similar.

The usefulness of the concept of net assets is that it gives us a measure of the owners' (*i.e.* shareholders' or partners') interest in the firm.[2] It represents the difference between total assets (or liabilities) of the firm and its outside, current debt. Apart from a very unusual state of affairs in size group II,[3] it seems, that, the smaller the company, the smaller are its net assets and consequently, the greater is its external debt. Sole owners and partners depend very much on such outside finance in the year chosen for analysis.

Trade creditors (or accounts payable) form the major part of this outside debt, and the item is considerably more important in Survey firms than in public companies. Sole owners and partners seem to rely quite heavily on this item, which accounts for 40.7 of their total asssets. There is a similar picture with debtors on the other side of the balance sheet: this item accounts for a much larger proportion of total assets in small companies (and particularly with sole owners and partners) than in firms covered in the N.I.E.S.R. study. Usually, debtors exceed creditors, by varying amounts, and the difference between the two ranges from 9.1 per cent of total assets in size group I to 0.5 per cent in size group IV.[4] The position is reversed in the case of sole owners, partly because current debt is such an important part of the balance sheet. To some extent, debtors will exceed creditors because of the value added in production, but firms do tend to finance their customers by the granting of credit, and to obtain similar finance from their own creditors. This is a cheap and easy, though short term, source of funds,[5] which would be used, one imagines, partly for the finance of customers and partly for the finance of stocks.

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[1] Net assets may be defined as share capital, *plus* reserves, *plus* long term liabilities; or alternatively, as total fixed assets (net of depreciation) *plus* current assets, *less* current liabilities.

[2] The inclusion of long term liabilities extends the definition to include debenture and minority interest holders.

[3] This is due to severe running down of reserves by a few firms in this group (a result of several years' losses). These firms will be examined more closely in later detailed analyses —at this stage, only speculation is possible, and that might not be profitable.

[4] Size group II must again be accounted unusual.

[5] See James A. Bates and Michael Stewart: 'Small Manufacturing Business,' BULLETIN, May 1956, p. 154 and p. 165.

Loans are the other source of current external finance of firms. These are relatively insignificant in public companies, accounting for only 2.7 per cent of total assets, but are much more important in smaller firms. Bank loans are small in the smaller firms in size group I, but are even smaller in N.I.E.S.R. firms. Directors' loans, which are not used by public companies, account for 8.7 per cent of total assets in companies in size group I. Such loans are often a way of borrowing from a director without giving him the extra control over the firm which would result from his purchase of new equity, and it is likely that this is an important reason for the use of this particular form of finance by small firms. Other loans (*e.g.* loans from Building Societies and individuals) are important to sole owners and partners, as would be expected, and are a relatively insignificant item in the balance sheet of companies of all sizes.

On the assets side of the balance sheet, there are few significant differences between the groups chosen. Tangible assets (at cost less accumulated depreciation but with allowances made for revaluation where relevant) are a smaller proportion in survey firms than in public companies: this might be due either to more realistic valuations by public companies; or to the fact that newer machinery, etc., might be in use, which would naturally have a higher cost than older machinery; or to more capital-intensive forms of production in public companies, but there is no evidence in this data that this is so. Differences between industries might well be due to some such factor, and it is not surprising to find that the clothing industry has a much lower fixed assets/total assets ratio than the paper and printing industry. It is rather surprising that plant and machinery form such a small proportion as 8.8 per cent of total assets in engineering, but since material costs are a high proportion of total costs in such firms, this presumably means that stocks need to be high (as they are), and this would reduce the share of total assets attributable to other assets. The stocks picture by industry is more or less what one would expect from such reasoning, with the clothing industry having much the highest proportion. In general stocks are higher in survey firms than in public companies, and this may well be partly due to differences in market structure or perhaps to greater efficiency of stock management in larger concerns.

The liquidity of firms may be measured in two ways: either by taking the ratio of liquid assets to total assets, or, more usefully, by relating liquid assets to short term liabilities, which compares short term debt with the assets which might be supposed necessary to cover it. Table IV, showing this ratio for the firms under consideration, demonstrates significant differences between the groups. This is quite obviously a subject for much closer analysis than is possible here, but a few comments are possible. The cash element in liquid assets may fluctuate for reasons which have little to do with the operation of the firm, and may represent mere temporary accumulations

TABLE IV

Liquidity ratios by groups

Size Groups (Net Assets)	*Ratio of Liquid Assets to Short Term Liabilities**
I (less than £5,000)	0.677
II (£5,000—24,999)	0.141
III (£25,000—999,999)	0.796
IV (£100,000 and over)	0.612
Industry	
Engineering (E)	0.987
Metal goods (M)	1.510
Clothing (C)	1.020
Paper, etc. (P)	0.452
All Companies	0.641
Sole Owners, etc.	0.365
Public Companies (N.I.E.S.R. study)	1.285

*Liquid assets comprise: securities, tax reserve certificates and cash. Short term liabilities comprise: total loans, dividends and interest, current tax liabilities.

or decumulations. But it may well be that some firms may need larger liquid resources than others—for example, firms in the clothing industry may like to keep high cash resources in order to be able to buy stocks at convenient times, or when prices are low. Similar reasoning might apply to metal using industries, and indeed to any industries depending largely on materials whose prices fluctuate considerably. Marketable securities are a convenient way of holding surplus funds and at the same time allowing them to earn, and are more likely to be used by larger companies with larger absolute resources. In the N.I.E.S.R. sample they account for 3.5 per cent of total assets, as opposed to 0.8 per cent in survey firms.

Short term liabilities on the other hand, tend to be bigger in small firms than in large firms, partly because of the greater importance of loans in small firms.

There is some evidence that liquidity ratios are higher in large than in small firms (although Size group II presents a problem); and similarly, liquidity ratios in the metal goods and clothing industries are consistent with the remarks made above.

Income and Its Appropriation

The profitability of businesses may be measured and compared by relating some profit measure to net assets (which may realistically be supposed to be the assets of the firm which earn income for the shareholders). Probably the most useful measure of income for present purposes is total profit, which consists of trading profit (net of depreciation and fixed interest charges) plus other income (from securities, rents, royalties, etc.)[1]. This represents the income available for appropriation.

The ratio of total profit to net assets is shown in Table V. It is interesting

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[1] There is some inconsistency here, since fixed interest charges (which are excluded from income) relate to long term liabilities (which are included in net assets). The effect on the ratio is however negligible since fixed interest payments are in fact small in our firms.

TABLE V

Income/Asset Ratio
Total Profit as Percentage of Net Assets*

Year ending March 31st	*1954*	*1955*	*1956*
Size Groups			
I (less than £5,000)	14.4	11.5	15.1
II (£5,000—24,999)	2.1	16.6	−1.8
III (£25,000—99,999)	13.4	13.9	17.7
IV (£100,000 and over)	12.0	12.2	14.4
Industry			
Engineering (E)	10.0	18.0	17.8
Metal goods (M)	24.4	26.0	20.5
Clothing (C)	18.2	11.1	5.8
Paper, etc. (P)	10.7	5.9	15.3
Sole Owners and Partners	34.8	51.9	50.0
All Companies	12.5	12.5	14.9
N.I.E.S.R.	15.9	†	†

* Total Profit is determined as follows: Net sales, *less* total costs, *less* interest on long term liabilities gives Trading Profit; deduction of depreciation from this gives Operating Profit. Total Profit (or Income) consists of Operating Profit *plus* Other Income (from investments, etc.), and is the sum from which appropriations in the form of tax and dividends are made.

† Signifies not known.

that in 1954 (the only year in which comparisons are possible) there is not a great difference between survey companies and public companies, and the only size group which differs significantly from the rest is group II, which has special circumstances. But differences between industries are more marked. Firms in the metal goods industry have a very high ratio; in paper and printing the ratio is low and fluctuates considerably; the clothing industry experiences a steady decline in profit rates. These differences are not unexpected in the light of the economic history of the period under review: clothing is probably a declining industry; metal goods is probably expanding. Sole owners and partners, as was noted earlier,[1] have low net assets, and the ratio in the case of these firms is high. But apart from this, it does not seem that there is any significant scale factor.

A very simple savings function can be calculated, showing retained profit[2] as a proportion of total profit. This is shown for survey firms in Table VI. Survey firms retain more of their profits than do public companies in 1954, and smaller survey firms (notably in size group I) retain a much higher proportion than do the larger survey firms. Sole owners and partners on the other hand have comparatively small savings ratios: this is partly because drawings of owners and partners have been treated as dividends in the accounts presentation, where if they are treated as directors' remuneration and deducted before total profit is struck, the proportion of retained profit to total profit is very much higher.

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[1] See p. 160.

[2] Retained profit is defined as: Total profits *less* tax, *less* dividends, drawings, etc. In most of the companies tax accounts for about 50 per cent of total profit.

TABLE VI

Savings and Income
Retained Profit as Percentage of Total Profit

Year ending March 31st	*1954*		*1955*		*1956*	
Size groups:	*Average total profit* (£)	*Savings* %	*Average total profit* (£)	*Savings* %	*Average total profit* (£)	*Savings* %
I	1,584	42.6	1,394	37.8	1,951	55.0
II	65	*	413	29.2	—40	*
III	5,789	21.2	6,300	25.3	8,529	36.9
IV	30,925	37.9	37,379	28.5	51,401	29.1
Industry						
Engineering	4,022	10.5	8,914	34.3	8,492	37.5
Metal Goods	9,309	37.8	9,006	41.2	4,981	41.3
Clothing	3,365	31.3	2,673	31.0	1,192	1.1
Paper, etc.	2,345	44.7	1,275	*	4,856	35.8
All Companies	5,823	33.0	7,847	29.0	9,800	32.9
Sole Owners and Partners ...	1,508	25.7	1,591	19.1	1,709	21.6
N.I.E.S.R. (£,000) ...	476.9	20.3	†	†	†	†

* Signifies retained loss (or running down reserves).
† Signifies not known.

Prior deduction of directors' remuneration in smaller firms would have a similar effect since, the smaller the firm (and the smaller its income in absolute terms) the more weight directors' remuneration is likely to have. Further analysis is clearly desirable and firm conclusions cannot be drawn until such analysis is carried out, but it is probable that the effect of directors' fees is not such as to invalidate the tentative conclusion that small private companies tend to save a higher proportion of their income than do larger ones. The industries selected for the tables also display some such tendency but part of this may well be a reflection of the size effect. It would not be unreasonable to suppose that firms at an early stage of development would save a high proportion of their income if expansion was an aim of the entrepreneur; but ' permanently small ' companies, or firms with no desire for expansion might be induced to save rather less and the directors and shareholders to draw rather more.[1]

It is possible to say rather more about the significance of retained profit however, when sources and uses of funds are considered. It is, in fact, the annual flows of income and expenditure which are the most interesting field of study in company finance.

Sources and Uses of Funds

The most valuable use of accounting information is in the analysis of sources and uses of funds, and one of the most interesting aspects of business finance is the extent to which companies are self financing, and how much they rely for capital on external sources. Thus, from the sources side of the account we need to know the weight of the various kinds of finance, and on the opposite side we need to know the direction of the expenditure. These may be analysed in two ways, either as proportions of total sources (or uses) of funds, or as proportions of some such base as net assets. The latter measure has the merit of providing some weighting factor independent of the volume of funds itself, and is particularly useful for comparisons.

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[1] This might also be a *reason* why they would remain small.

Table VII shows both of these measures for all survey firms for the period March 31st, 1953, to March 31st, 1956, and Tables AIII to AV in Appendix A show sources and uses of funds and proportions of net assets by groups.

TABLE VII

Sources and Uses of Funds, 1954–1956

	Percentage of total sources of funds			*Percentage of net assets at balance sheet date*		
Year ending March 31st	*1954*	*1955*	*1956*	*1954*	*1955*	*1956*
Number of companies	81	197	151	81	197	151
Source of Funds						
Issued capital	57.3	6.1	23.0	9.1	0.5	1.5
Changes in loans:						
from banks	−22.6	6.8	15.9	− 3.6	0.5	1.0
other	2.5	1.2	− 3.1	0.4	0.1	− 0.2
Changes in amounts due to trade creditors	− 0.5	9.6	−73.6	− 0.1	0.7	− 4.9
Other	3.4	2.6	− 4.6	0.6	0.3	− 0.3
Total Credit Received	−17.1	20.1	−65.4	− 2.7	1.6	− 4.3
Retained Profit	25.9	46.6	74.4	4.1	3.6	4.9
Depreciation provisions ...	21.2	41.3	49.9	3.4	3.2	3.3
Changes in future tax reserves	−15.9	−20.7	13.1	− 2.5	− 1.6	0.9
Other capital receipts, etc. ...	28.5	6.6	5.0	4.6	0.5	0.3
Total Sources	100.0	100.0	100.0	15.9	7.8	6.6
Use of Funds						
Gross expenditure on:						
tangible assets	27.9	55.2	76.1	4.4	4.3	5.0
intangible assets	*	*	− 2.3	*	*	− 0.1
trade investments	59.9	1.5	−12.4	9.6	0.1	− 0.8
Increase in value of stocks ...	−13.2	−37.8	−33.1	− 2.1	− 2.9	− 2.2
Change in debtors	− 0.4	78.4	54.0	− 0.1	6.1	3.6
Other capital payments ...	0.1	0.1	0.7	*	*	0.1
Expenditure on Operating Assets	74.3	97.4	82.9	11.8	7.6	5.5
Change in Liquid Assets ...	25.7	2.6	17.1	4.1	0.2	1.1
Total Uses	100.0	100.0	100.0	15.9	7.8	6.6

* Less than 0.1 per cent.

In general, as would be expected, new issues of capital are relatively unimportant to survey companies. The only year in which they are a significant proportion of total finance is 1954, when they account for 57.3 per cent of total sources and 9.1 per cent of net assets. But this is almost entirely due to a large issue by bigger firms (in size group IV), and it seems likely that this is connected with the big increase in trade investments in that year (purchase of interest in other concerns may have been financed by share issues). Private companies cannot of course go to the market and issue share capital in the same way as can public companies, since there is a strict limit to the number of shareholders such a company may have. This means that any new issues are usually restricted in practice to existing shareholders, and this is potentially a severe limitation on the expansion of private companies. This may be overcome however by becoming a public company.

Loans, mainly from banks, are a variable source of finance, decreasing considerably in total in 1954 and increasing in 1955 and 1956. Size group II emerges from this analysis as a heavy user (in terms of net assets) of loans, but this is partly due to the low net assets figure for this group.[1]

Size group IV reduced loans considerably in 1954, and slightly in 1955, but increased them in 1956. The credit squeeze seems to have had little effect on our firms (this contention is supported by an analysis of the entrepreneurs' answers to questions about the effects of the credit squeeze on their firms)[2]; and indeed the companies increased their borrowing from banks during the year ending March 31st, 1956. But this was only the beginning of the squeeze, which may not have had time to take effect on our firms.

TABLE VIII

Net Trade Credit Granted (−)
Or Received (+), *by Groups, 1954–1956*

Year ending 31st March	*1954*	*1955*	*1956*
	Percentage of net assets		
Size group: I (less than £5,000) ...	− 3.7	+ 1.3	− 2.1
II (£5,000 − 24,999) ...	− 3.8	− 2.1	+23.4
III (£25,000 − 99,999) ...	+ 1.6	+ 1.0	− 5.2
IV (£100,000 and over) ...	− 0.4	− 7.9	−10.2
Industry Engineering (E)	—	− 2.2	− 9.9
Metal goods (M)	− 1.5	− 2.1	+ 1.2
Clothing (C)	− 3.2	+ 2.0	− 1.2
Paper, etc. (P)	+ 2.6	+ 2.5	− 2.9
Sole owners and Partners	+ 7.0	+ 1.5	+ 5.0
All companies	− 0.1	− 5.4	− 8.5

Net trade credit (debtors less creditors) is also very variable. Liabilities to creditors *decreased* in 1954 and 1956, and increased slightly in 1955; amounts owing *to* the firms in the sample increased significantly in 1955 and 1956. Thus in total survey firms tended to grant more credit than they were receiving during the period. Table VIII shows this rather more clearly. Firms in size group IV (the largest firm in the sample) gave more credit than they received throughout the period, and did so at an increasing rate; firms in size group III received decreasing amounts of credit during the first two years and ended by granting credit; and the smallest firms granted credit

[1] See p. 160

[2] See Lydall, *op. cit.*

in 1954 and 1956 and received a little in 1955.[1] It is possible that hardening of markets meant that more credit had to be given to customers, but little extra could be obtained from creditors. The more survey firms sell to big firms on contract (with considerable payment lags) and the more they buy materials from bigger concerns who will not wait for payment, the stronger this tendency will be. There is some evidence that our firms tend, on balance, to pay sooner than they are paid, as may be seen in Table IX (derived from answers to the questionnaire used in the survey, this table refers to 876 firms in the main sample). In engineering for example, 43 per cent of firms said that they pay sooner than they are paid, and firms in this industry had to grant more credit than they received. This analysis cannot be taken too far at this stage, but it is evident that on balance the granting of trade credit to customers was an important *use* of funds.

TABLE IX

*Difference between time Lag in Payments and Time Lag in Receipts**

	Net Customer Time Lag (= pays early)		*No Time Lag*	*Net Supplier Time Lag (= pays late)*		*Total*
	over 4 weeks	*less than 4 weeks*		*less than 4 weeks*	*over 4 weeks*	
Industry:			*Percentage of total firms*			
Engineering ...	23	20	46	9	3	100
Metal goods ...	18	25	46	9	2	100
Clothing ...	8	18	47	26	1	100
Paper, etc. ...	14	26	51	8	—	100
All	19	25	42	13	1	100

*The average time lag in receipts from customers was subtracted from the average time lag in payments to suppliers. Thus a ' net supplier time lag ' means that the firm pays its suppliers after it receives payment from its customers, whilst a ' net customer time lag ' represents the opposite state of affairs.

By far the most significant source of funds of survey firms is retained profit, accounting for between 3½ per cent and 5 per cent of net assets on average. On balance there is a tendency for smaller firms to retain more profits (in these terms) than do bigger firms: size group I has the highest proportion during the period. The proportion of retained profits to net assets in size group II is extremely high in 1955, but this is probably due to a desire to replace reserves after the losses of 1954. Of the industries covered, metal goods had the highest proportion of retained profits to net assets.

If to retained profit we now add depreciation provisions, making a total which may be called ' savings ', it is apparent that by far the largest part of the sources of funds of our firms is internal finance. (See Table VII). Savings account for 7 to 8 per cent of net assets in survey firms, and between

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[1] Obviously, the tendency for debtors to exceed creditors mentioned earlier (see p. 160) would tend to be reflected in annual changes, so that one would expect a slight tendency for changes always to be in the direction of the granting of credit, but these changes seem too big to be accounted for by this alone.

47 and 124[1] per cent of total sources of funds; and in the three years covered in the analysis, the tendency is for the smaller firms to save more than the larger firms, and for firms in the metal goods industry to save more than firms in other industries selected for analysis. Sole owners and partners, as would be expected, have a high ratio of savings to net assets.

But before a realistic assessment of the finance position is possible, it is necessary to relate sources to uses. It is undoubtedly interesting to know that small firms save proportionately more than big firms, but the saving alone is not of much significance. If savings are merely used for the accumulation of liquid assets, in the form of cash or securities, they add little to the earning power and productivity of the firm, and indeed, beyond a certain point they become mere fatty deposits on the firm. A certain level of liquid assets is necessary, and temporary accumulations may occur in periods when expenditure on operating assets is not necessary or not desirable, but there is a level over which accumulation of liquid assets must be considered undesirable.

In survey firms as a whole, liquid asset growth was small, though in 1954 it was of the same order as gross investment in tangible assets. Experience of the various size and industry groups over the period is so varied that little comment is possible other than that liquid assets do vary considerably for reasons unconnected with the operation of the firm.

Investment is much more tangible and more susceptible to analysis. In the macro-economic sense, material investment may be defined as expenditure (gross of depreciation) on fixed assets and stocks, and this is calculable from the *National Income* Blue Book for the economy as a whole. From the micro-economic point of view however, it is probably expenditure on operating assets which is most important. In the following discussion investment will be taken to mean material investment in fixed equipment and stocks; the addition to this of expenditure on intangible assets, trade investments, debtors and other capital payments will give expenditure on operating assets. In fact the pattern of investment is very similar to the pattern of expenditure on operating assets.

Investment in our firms as a whole was fairly constant through the period at an average rate of about 4.5 per cent of net assets. This compares with an average rate of something like 9 per cent for firms in the N.I.E.S.R. study.[2] Surprisingly, the smaller firms (with net assets less than £25,000) in the sample seemed to spend most on investment both as a proportion of their net assets and as a proportion of their total uses of funds. Expenditure on tangible assets in size group II is particularly high. This may be connected in some way with more rapid rates of growth of the smaller firms. Of the industries covered, metal goods seems to have invested most, but in 1954 the position is complicated by a considerable decrease in the value of stocks in this industry.

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[1] Counter balanced in this case by a very considerable reduction in trade creditors.

[2] '*Company Income and Finance*'.

Fluctuations in the value of stocks are indeed most interesting. The most sizeable stock reductions appear to be in bigger firms in metal goods and engineering in 1954, followed by re-stocking in 1955 and (in engineering only) in 1956,[1] but in almost every group covered there are very considerable fluctuations from year to year. To some extent this may be due to fluctuations in prices, or to price expectations, and of course there is a close relationship between the level of activity of the firm and the level of its stocks. The tendency to run down stocks may also be connected with the readier availability of materials in the years covered compared with earlier years.

The Finance of Investment

It is now possible to relate sources and uses of funds more closely, and to determine the extent to which our firms finance themselves. In order to do this it is necessary to relate the various sources of funds to expenditure, either on fixed equipment, operating costs, or some other combination of expenditures, and hence to distinguish between accumulation of non-operating assets and expenditure on assets which affect the earning and trading capacity of the firm. Two such measures suggest themselves: material investment, in the sense of gross expenditure on tangible assets and stocks; and expenditure on operating assets.

To what extent did sample firms finance their material investment from their own savings? Table X shows the aggregate position from 1954 to 1956 for the sample as a whole and for size and industry groups.

The total for all firms is much influenced by the drastic stock reductions mentioned earlier, but it is possible to isolate the effect of these, since they are due to firms in the largest size group, and by concentration on the smaller firms it is possible to obtain a more balanced view.

There is considerable variation in the degree of self financing from year to year and between groups, and it is difficult to say whether on balance our firms financed their own investment or not.[2] The experience of the firms over the period as a whole can be summarised in the form of an average; which is derived by dividing the sums involved by the number of firms in the group and treating this as an average figure for the year. Summation of these averages then gives an average experience over the period as a whole. From this it seems that between 1954 and 1956, only firms in size group II and in the engineering and metal goods industries were self-financing in the terms discussed above, and it seems that our firms were unable to finance their own capital expenditure.

The N.I.E.S.R. study found that this also applied to quoted public companies between March 31st, 1950, and March 31st, 1954; whereas *National Income* Blue Book figures give the opposite impression.[3] This

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[1] Stock revaluations do not affect the figures, since they were excluded at the editing stage as part of the process of distinguishing book-keeping transactions from real flows of funds.

[2] The relation of saving to fixed investment (*i.e.* gross expenditure on tangible fixed assets) is shown in Table X (C). Thus, if we exclude stock changes in this way, most of our groups are either completely or very nearly self financing.

[3] See '*Company Income and Finance*'.

TABLE X

Saving and Investment
1954 to 1956

A. *Aggregate* (*all Firms*) (*£000*)

Year ending March 31st	*1954*	*1955*	*1956*
Number of firms	81	197	151
Retained profit	155.8	447.8	486.8
+ Depreciation provisions	127.6	397.0	326.0
= Saving	243.4	844.8	812.8
Gross expenditure on tangible assets ...	167.6	530.4	497.4
+ Change in value of stocks*	−79.3	−363.8	−216.7
= Investment	88.3	166.6	280.7

B. *Ratio of Saving to Investment, by Groups.*

Percentage

Year ending March 31st		*1954*	*1955*	*1956*	*Average 1954–56*
Size group:	I (less than £5,000) ...	110.1	53.6	120.8	87.7
	II (£5,000 – 24,999) ...	50.4	54.1	27.1	42.3
	III (£25,000 – 99,999) ...	102.1	63.6	166.8	100.9
	IV (£100,000 and over) ...	(†)	(†)	129.4	(†)
Industry:	Engineering (E) ...	228.5	97.1	262.2	152.0
	Metal goods (M) ...	1,286.8	129.7	104.3	143.4
	Clothing (C)	43.9	84.5	70.9	59.7
	Paper, etc. (P)	89.8	20.5	150.7	69.7
All companies		321.0	507.1	289.6	281.5
Sole owners and partners		165.3	47.3	50.1	62.5

C. *Ratio of Saving to Fixed Investment, by Groups.*
(*Average 1954–1956*)

	Size group				*Industry*				*Sole owners*	*All companies*
	I.	II.	III.	IV.	E	M	C	P		
Percentage ...	118.1	53.5	135.1	697.0	166.5	282.4	124.6	82.1	97.4	132.7

* Changes in stocks in firms in size group IV were as follows:
1954: −£94,386; 1955: −£531,288; 1956: −£276,573
† Investment negative.

difference is partly due to differences in classification between the Blue Book and ‘ *Company Income and Finance* ’, and it was argued that there may be differences between the experience of quoted and unquoted companies. This may well be so, and it may also be that the quoted companies grow more rapidly and hence need more outside finance than do unquoted companies. This argument may also apply to our private companies, some of whom are rapidly growing concerns.[1] The examination of rates of growth and their effect on finance is part of the more detailed analysis planned for survey data.

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[1] Some evidence to this effect is published in my paper: ‘ Hire Purchase in Small Manufacturing Business ’ *Banker's Magazine*, September and October 1957.

Thus other sources would have to be used for the finance of material investment in cases where the savings/investment ratio was less than one, and the extent to which they were used can be seen in Tables AIII, AIV and AV. In size groups I and II it is likely that loans were useful for this purpose, and there is a possibility that trade creditors or hire purchase might have been used for the purchase of equipment (use of hire purchase is certainly fairly common among rapidly growing firms).[1]

But, just as savings are not the only source of funds, so investment is not the only way of using funds; purchase of trade investments, increase in debtors and accumulation of liquid assets are also possible uses. To some extent these assets are offset by corresponding liabilities and it is probably justifiable to consider net changes in the various items as the important sources or uses of funds. Using such a classification, changes in the items *Debtors less creditors* and *liquid assets less short term liabilities* represent sources or uses of funds (depending on whether the sources are positive or negative).

Using an average of all items for all firms for the period, (employing the same principle as that used for the data in the last column of Table X (B)), the results of such calculations are presented in Table XI. Expenditure on fixed assets and working capital (including depreciation) can really be considered as expenditure on net operating assets,[2] and since these are the assets considered necessary for the operation of the firm, it is realistic to consider net sources of funds[3] as a proportion of this total. The amount by which net sources of funds fall short of or exceed increases in fixed assets and working capital will be the amount by which the net liquid position of the firm has worsened or improved.

In survey firms, net sources exceeded expenditure on fixed assets and working capital by almost 20 per cent. The running down of stocks naturally reduced the expenditure figure, but this was partly compensated at least by a reduction in amounts owing to creditors (the two may be connected). Saving was by far the most important source, accounting for 79.3 per cent of expenditure, but issued capital was far from insignificant at 33.4 per cent.[4] As a result of the excess of net finance over expenditure, liquid assets for firms in the sample thus increased considerably, and absorbed about 15 per cent of the total net sources.

The Period 1950–1956

There is one further source of information about the finance of these companies which may be mentioned very briefly. During the interview businessmen were asked questions about their sources of finance during the preceding 5 years: their answers are summarised in Table XII.[5] The information so far tabulated only refers to frequency of use and not to weights of finance, but the figures are not without interest.

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[1] *Ibid.*

[2] *I.e.* net of increases in amounts owing to trade creditors.

[3] *I.e.* net of increases in loans and accruals.

[4] See, however, p. 165.

[5] For an analysis of all firms in the main sample see J. A. Bates: 'Hire Purchase in Small Manufacturing Business', *Bankers' Magazine*, September and October, 1957.

TABLE XI

The Finance of Investment 1954–1956
(Average of all firms)

Expenditure:		£	*Percentage of expenditure on fixed assets and working capital*
Gross expenditure on tangible assets*		8,056	48.4
Other capital expenditure:			
Trade investments		3,985	24.0
Other†		−44	−0.3
Change in stocks		−4,261	−25.6
Increase in debtors	6,139		
Plus decrease in creditors	2,759		
Extra net trade credit given		8,898	53.5
Total Expenditure on Fixed Assets and Working Capital		16,628	100.0
Net Sources of Funds:			
Issued capital		5,550	33.4
Saving*		13,181	79.3
Other capital receipts		2,659	16.0
Changes in future tax reserves		−1,621	−9.8
Total Net Sources		19,769	118.9
Less Change in Net Liquid Position‡		3,141	18.9
Increase in liquid assets *plus* decrease in short term liabilities	2,766 375		
		16,628	100.0

* Including depreciation.
† Including negative change in intangible assets.
‡ Running down of net liquid position is thus counted as a net source of funds (or a positive change) improvement of liquid position is a net use of funds (or a negative change). Thus in this case the improvement in the net liquid position was a use of funds for purposes other than investment in fixed assets and working capital, and needs to be deducted from net sources of funds.

Ploughed back profits were the most common source of funds according to this analysis, bearing out the earlier remarks about the importance of saving. Overdrafts were the next most common, but half of the firms did not use this source at all. The fact that of firms which used overdrafts, over 80 per cent did so on average for less than 6 months of the year emphasises the fact that this does tend to be a short term source of funds.

Of other sources, hire purchase of plant and equipment was the most common. This is a source of funds which has certain special characteristics of special interest to small firms,[1] not the least of which is its usefulness to firms at an early stage of development. It is possible that many firms take their first steps *via* the use of hire purchase. Loans from directors or partners

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[1] *Ibid* and F. R. Jervis, 'Private Company Finance in the Post-War Period'. *The Manchester School*, May 1957.

TABLE XII
Sources of Funds, 1950–1956

Source	Firms Using Source
A. Ploughed back Profits	
No profits ploughed back	29
Profits ploughed back in:	
1–3 years	39
4 or 5 years	77
6 years	176
Not ascertained	14
Total	335
B. Overdraft	
No overdraft	162
Overdraft in: 1–3 years	49
4–6 years	121
Not Ascertained	3
Total	335
Average duration of overdraft:	
Up to 6 months	143
6 to 12 months	27
C. Other Sources of Funds	
No other sources used in period	193
New shares issued to share holders transfers of personal capital	35
New shares issued outside firm, outside capital	16
Debentures issued to shareholders, etc.	3
Debentures issued to non-shareholders	7
Loans from parent company*	15
Loans from directors or partners	76
Bank loans other than overdrafts	6
Other sources:	
Institutions	37
All other	3
Hire purchase of plant and equipment	108
Total Other Sources†	499

* Including companies financed entirely by parent company.
† Since more than one source may be used at once (*i.e.* sources in Group C are not mutually exclusive) total sources exceed total firms.

were frequent, but as was seen earlier their weight is not considerable. The next most frequent sources are issues of shares and loans from institutions (such as Building Societies, I.C.F.C., etc.) Remaining sources are insignificant in frequency but possibly important in weight (finance by parent companies is an obvious case where this would be so). Well over half the firms used no other sources at all during the period, again underlining the importance of internal finance for our firms, at least in frequency terms. The importance of self-finance is further stressed when it is considered that new shares issued to shareholders, debentures issued to shareholders, loans from parent companies, and loans from directors or partners, are all sources which fall within the existing field of influence of the firm since they tap sources which have already provided funds at least once. These ‘ field of influence ’ sources account for over 40 per cent of total outside sources used; whilst if we exclude hire purchase, which is a special sort of finance involving few of the normal difficulties of outside borrowing, the proportion is over 60 per cent.

Further Implications

From the evidence so far available it is not strictly possible to say whether or not a Macmillan gap existed in small firms. Firms covered in the Survey certainly did not seem short of finance and were able to undertake capital expenditure and find the funds for it. But their rate of expansion in terms of investment was rather slower than that of the public companies of the N.I.E.S.R. study, and we cannot say whether this was due to lack of funds. A much more detailed analysis of rates of growth and desired rates of expansion is obviously desirable; it is not really possible to say for example whether expansion was limited by lack of funds or to failure to try all possible sources, or simply to the fact that such expansion might not really have been justified in terms of prospective returns. If, as one suspects, the last was usually the case, there is no question of a Macmillan gap, since there is no need in an economic sense (*i.e.* no *effective* demand) for funds. Possibly many of our firms would not expand as quickly as they would have liked, but equally there may not have been any justification for such expansion. In a time of comparative financial ease, such as the early part of the period considered, it is extremely unlikely that funds would not have been forthcoming for worthwhile projects[1] and one suspects that any limits on expansion would have been in the returns rather than the finance dimension. It is true that institutional barriers do exist which hinder the raising of external capital: apart from restraint by the Capital Issues Committee, it is very expensive to raise sums of much less than £50,000 on the new issue market, and in any case most of our firms would have had to make the step from private to public company before they could raise funds in such ways. But it is extremely doubtful whether these barriers would be insuperable if the returns from such finance were thought to be worthwhile. Marginal projects would suffer, and slow or gradual expansion might come to a stop once such a limit was reached, but one feels that even so in many cases the difficulties are exaggerated.

Specialised financial institutions, such as I.C.F.C., do exist to bridge any such gap, but many of them are unpopular with small firms since borrowing from them often involves some loss of control. The growth of hire purchase facilitates expansion up to a point, but such agreements are usually restricted to machinery, and however useful hire purchase may be in that direction, this is a limitation. If a Macmillan gap does exist, such sources are one way of helping to fill it; and there must be a suspicion that any such gap is largely due either to imperfect knowledge of sources or ineffective demand rather than to lack of funds.

But only speculation is possible at this stage, and conclusions can at best only be tentative. This is the sort of issue which further analysis may help to clarify: the most that can be said with certainty is that savings in our firms were high during the period and were adequate for such expansion as was carried out. Very rarely did our firms have to issue new capital or borrow large extra sums outside the firm.

ADDENDUM

Since this paper was written the Board of Trade have published aggregate accounts for public quoted companies for the periods March 31*st*, 1954, *March* 31*st*, 1955, *and March* 31*st*, 1956.

These are on exactly the same basis as the N.I.E.S.R. publication (' *Company Income and Finance* ') *and appear in the February 1958 issue of* '*Economic Trends*'.

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[1] In fact many projects objectively not worthwhile would find funds.

APPENDICES

Appendix A: Aggregate Accounts (Tables A I to A V).

Appendix B: Notes on Items in the Aggregate Accounts.

TABLE A I

Aggregate Account, all Companies
A: Balance Sheet Summary (£,000)

Comparable balance sheets for year ending March 31st	*1953*	*1954*	*1954*	*1955*	*1955*	*1956*
Number of companies:	81	81	197	197	151	151
Capital, Reserves and Liabilities:						
Ordinary shares ...	1,014.7	1,230.9	3,495.1	3.652.4	2,732.9	2,993.8
Preference shares	130.0	132.0	1,091.6	1,092.4	893.5	894.5
Issued Capital	1,144.7	1,362.9	4,586.7	4,744.8	3,626.4	3,888.3
Capital reserves ...	176.1	321.5	1,336.9	1,383.6	1,093.4	1,134.6
Revenue Reserves	1,461.4	1,621.0	4,499.9	4.934.9	3.560.9	3,964.2
Provisions...	10.6	9.4	23.5	18.0	19.5	22.5
Reserves and Provisions	1,648.1	1,951.9	5,860.3	6,336.5	4,673.8	5,121.3
Future tax reserves	224.4	128.7	845.0	644.1	508.8	588.4
Total Capital and Reserves	3,017.2	3,443.5	11,292.0	11,725.4	8,809.0	9,598.0
Long Term Liabilities	160.4	337.0	650.2	657.7	332.7	326.6
Bank loans	354.7	219.0	1,150.5	1,215.8	849.4	953.3
Directors' loans ...	98.2	112.6	279.8	303.5	194.6	188.4
Other loans	115.7	116.5	182.6	170.3	137.9	124.3
Trade creditors	881.2	878.2	3,988.2	4,079.9	3,269.4	2,786.3
Dividends and interest ...	49.8	56.9	214.9	228.3	164.9	231.9
Current taxation	317.8	313.5	927.5	900.2	661.4	520.6
Current Liabilities ...	1,817.4	1,696.7	6,743.5	6,898.0	5,277.6	4,804.8
Total Capital, Reserves and Liabilities	4,995.0	5,477.2	18,685.7	19,281.1	14,419.3	14,729.4

Assets						
Land and buildings	642.2	654.6	2,048.9	2,108.9	1,671.4	1,694.4
Plant and machinery	627.5	652.4	2,061.9	2,172.6	1,702.6	1,826.7
Other fixed assets	95.7	101.9	259.9	226.2	168.9	180.2
Tangible Assets	1,365.4	1,407.9	4,370.7	4,547.7	3,542.9	3,703.3
Intangible assets	32.6	32.6	93.2	91.1	83.8	62.9
Trade investments	84.7	444.7	1,465.5	1,462.8	1,053.6	972.5
Fixed Assets	1,482.7	1,885.2	5,929.4	6,101.6	4,680.3	4,738.7
Stocks and work in progress	1,562.7	1,483.5	6,767.1	6,403.2	4,946.9	4,730.4
Trade debtors, etc.	1,365.4	1,370.1	4,223.4	4,978.5	3,443.2	3,799.2
Securities	55.9	55.9	155.7	159.9	131.0	173.7
Tax reserve certificates	88.2	161.5	328.0	332.2	156.3	148.9
Cash	440.1	521.1	1,282.1	1,305.7	1,061.6	1,138.5
Current Assets	3,512.3	3,592.1	12,756.3	13,179.5	9,739.0	9,990.7
Total Assets	4,995.0	5,477.3	18,685.7	19,281.1	14,419.3	14,729.4
Accumulated depreciation on fixed assets	749.8	842.9	2,368.2	2,716.4	1,773.8	2,005.8

TABLE A I

B: Appropriation of Income and Sources and Uses of Funds (£000)

Comparable accounts for year ending March 31st	*1954*	*1955*	*1956*
Number of companies	81	197	151
Appropriation of Income			
Trading Profit (net of interest on long term liabs.)	517.0	1,745.7	1,603.9
Less provision for depreciation	127.6	397.0	326.1
Operating Profit	389.4	1,348.7	1,277.8
Plus other income	82.3	197.1	201.9
Total Profit (Income to be Appropriated):	471.7	1,545.8	1,479.8
Less tax on current year's income	235.2	800.9	716.9
Net Profit (Disposable Income)	236.5	744.9	762.9
Less dividends, net: ordinary	76.3	261.5	245.2
preference	4.4	35.6	30.9
Less minority interest	*	*	—
Retained Profit	155.8	447.8	486.8
Plus prior year adjustments	27.1	102.9	69.9
Transfers to Reserves and Provisions	182.9	550.7	556.8
Add back depreciation	127.6	397.0	326.0
Balance of Available Profit	310.5	947.7	882.8
Sources and Uses of Funds			
Issue of: ordinary shares	166.2	50.6	155.4
preference shares	2.0	.8	1.0
long term liabilities	176.6	7.5	—6.3
Total Capital Issued	344.8	58.9	150.1

Increases in loans: from banks	−135.6	65.2	103.9
from directors	14.4	23.7	−6.2
other loans	.7	−12.3	−13.6
Increases in amounts due to trade and other creditors	−3.0	91.9	−481.2
Additions to accruals: dividends and interest	7.1	13.4	59.5
tax	13.4	11.1	−89.9
Increase in Credit Received	−103.0	193.0	−427.5
Retained profit	155.8	447.8	486.8
Depreciation provisions	127.6	397.0	326.1
Additions to future tax reserves	−95.6	−198.6	85.7
Additions to Reserves (ex. prior yr. adjustments)	187.8	646.2	898.6
Other capital receipts and profits	171.6	63.5	32.8
Total Sources of Funds	601.2	961.6	654.0
Gross expenditure on: tangible fixed assets	167.6	530.4	497.4
intangible assets	*	.4	−14.8
trade investments	360.3	14.9	−81.3
Increase in value of stocks	−79.3	−363.9	−216.7
Increase in debtors	−2.3	753.9	353.4
Other capital payments	.5	.8	4.4
Funds Devoted to Operating Assets	446.8	936.5	542.4
Increases in holdings of: marketable securities	—	−3.3	41.5
tax reserve certificates	73.4	4.2	−7.5
cash	81.0	23.6	77.0
Total increase in Liquid Assets	154.4	24.5	111.0
Residual differences and adjustments	*	.6	.6
Total Uses of Funds	601.2	961.6	654.0

* Signifies less than £50 — Signifies nil.

TABLE A II *Sole Owners and Partnerships* *A: Balance Sheet Summary (£)*

Comparable balance sheets for year ending March 31st	*1953*	*1954*	*1954*	*1955*	*1955*	*1956*
Number of firms	12	12	17	17	11	11
Capital and Liabilities						
Owners' capital at end of period	43,944	50,982	37,412	43,518	36,515	37,783
Future tax reserves	1,000	1,000	—	—	—	—
Long term liabilities	—	—	3,129	3,129	—	—
Bank loans	3,964	4,473	5,755	12,386	4,171	6,601
Partners' loans	4,880	5,080	100	100	1,374	1,374
Other loans	901	867	10,875	11,857	257	1,607
Trade creditors	11,731	13,680	39,265	48,088	16,239	21,453
Current taxation	441	—	—	1,997	—	53
Current Liabilities	21,917	24,100	55,995	74,428	22,041	31,088
Total Capital and Liabilities	66,861	76,082	96,536	121,075	58,556	68,871
Assets						
Land and buildings	8,284	7,928	6,529	7,122	3,065	6,953
Plant and machinery	11,569	11,770	23,263	27,327	13,741	17,505
Other fixed assets	3,030	3,337	5,029	6,665	5,225	5,582
Tangible Assets	22,883	23,035	34,821	41,114	22,031	30,040
Intangible assets	100	100	—	—	122	122
Trade investments	150	150	6,000	6,000	—	—
Fixed Assets	23,133	23,285	40,821	47,114	22,153	30,162
Stocks and work in progress	13,691	15,613	14,293	23,830	10,434	13,742
Trade debtors, etc.	15,788	14,201	35,313	43,398	17,535	20,752
Securities	—	—	—	—	—	—
Tax reserve certificates	—	—	—	—	—	—
Cash	14,249	22,983	6,109	6,733	8,434	4,215
Current Assets	43,728	52,797	55,715	73,961	36,403	38,709
Total Assets	66,861	76,082	96,536	121,075	58,556	68,871

Accumulated depreciation on fixed assets not known. — Signifies nil.

TABLE A II

B: Appropriation of Income and Sources and Uses of Funds

Comparable accounts for year ending March 31st	*1954*	*1955*	*1956*
Number of firms	12	17	11
Appropriation of Income			
Total profits (income to be appropriated)	18,092	27,051	18,795
Less tax on current year's income	2,707	3,234	137
Net Profit (Disposable Income)	15,385	23,817	18,658
Less drawings	10,741	18,651	14,595
Retained Profit	4,644	5,166	4,063
Plus prior year adjustments	2,394	−2,972	−128
Transfers to Reserves	7,038	2,194	3,935
Add back depreciation	2,067	4,452	3,209
Balance of Available Profit	9,105	6,646	7,144
Sources and Uses of Funds			
Increases in loans: from banks	509	6,631	235
from partners	200	—	—
other loans	−34	982	−75
Increases in amounts due to trade and other creditors	2,089	8,823	5,214
Additions to accruals: tax	−441	1,997	53
Increase in Credit Received	2,323	18,433	5,427
Retained profit	4,644	5,166	4,063
Depreciation provisions	2,067	4,452	3,209
Additions to future tax reserves	—	—	—
Additions to Reserves (ex. prior year adjustments)	6,711	9,618	7,272
Other capital receipts and profits	2,178	3,914	950
Total Sources of Funds	11,212	31,965	13,649
Gross expenditure on: tangible fixed assets	2,139	10,814	11,218
intangible assets	—	—	—
trade investments	—	—	—
Increase in value of stocks	1,922	9,537	3,308
Increase in debtors	−1,584	8,118	3,340
Other capital payments	—	2,860	—
Funds Devoted to Operating Assets	2,477	31,329	17,866
Increases in holdings of: marketable securities	—	—	—
tax reserve certificates	—	—	—
cash	8,734	624	−4,219
Total Increase in Liquid Assets	8,734	624	−4,219
Residual differences and adjustments	1	12	2
Total Uses of Funds	11,212	31,965	13,649

— Signifies nil.

TABLE A III

Sources and Uses of Funds by Groups. Year ending March 31st, 1954

	Size Group				*Industry*				S/O etc.	Cos.
	I	II	III	IV	E	M	C	P		
Source of Funds				*Percentage of*	*Net Assets, 1954*					
Issued capital	0.5	−0.3	0.8	14.5	0.1	0.2	—	—	—	9.1
Changes in loans	3.2	10.3	—	−5.8	0.2	1.5	7.0	1.1	1.4	−3.2
Changes in amounts due to trade creditors	1.9	−8.6	2.9	−1.6	3.1	1.2	−3.2	4.0	4.0	−0.1
Total Credit Received[1]	5.1	2.6	2.8	−6.6	1.8	4.2	11.6	4.0	4.5	−2.7
Retained profit	6.1	−1.3	2.8	4.6	1.1	9.2	5.7	4.8	8.9	4.1
Depreciation provisions	5.9	11.5	4.5	2.3	5.1	4.4	3.0	3.6	4.0	3.4
Changes in future tax reserves ...	1.4	−1.3	−4.0	−2.4	−0.7	−1.8	−4.7	−4.0	—	−2.5
Other capital receipts, etc. ...	0.2	—	—	7.4	—	0.2	—	4.4	4.2	4.6
Total Sources of Funds	19.2	11.2	6.9	19.8	7.3	16.4	15.6	8.4	21.6	15.9
Use of Funds										
Gross expenditure on:										
tangible assets	11.6	15.0	5.8	2.6	6.6	7.6	3.4	6.9	4.1	4.4
intangible assets	—	—	—	—	—	—	—	—	—	—
trade investments	—	—	—	15.6	0.8	—	—	—	—	9.6
Increase in value of stocks ...	−0.7	5.4	1.4	−4.2	−3.9	−6.6	16.5	2.5	3.7	−2.1
Change in debtors	4.6	−4.8	1.3	−1.2	3.1	2.7	—	1.4	−3.0	−0.1
Other capital payments	—	—	—	—	—	0.1	—	—	—	—
Expenditure on Operating Assets...	15.5	15.6	8.5	12.8	6.6	3.8	19.9	10.8	4.8	11.8
Change in Liquid Assets	3.7	−4.4	−1.6	7.0	0.7	12.6	−4.3	−2.4	16.8	4.1
Total Uses of Funds	19.2	11.2	6.9	19.8	7.3	16.4	15.6	8.4	21.6	15.9

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[1] The difference between total credit received and the sum of changes in loans and creditors is due to additions to accruals in the form of dividends, interest and tax.

— Signifies nil or less than 0.1 per cent.

TABLE A IV

Sources and Uses of Funds by Groups. Year ending March 31st, 1955

	Size Group				*Industry*				S/O etc.	Cos.
	I	II	III	IV	E	M	C	P		
Source of Funds			*Percentage of*		*Net Assets, 1955*					
Issued capital	1.1	1.7	1.0	0.3	0.6	0.2	0.4	0.1	—	0.5
Changes in loans	4.3	28.5	3.8	−0.9	1.4	2.3	−0.9	17.7	16.3	0.6
Changes in amounts due to trade creditors	7.5	22.1	3.6	−1.0	3.2	5.8	1.0	7.7	18.9	0.7
Total Credit Received	12.5	50.4	7.2	−1.6	4.9	11.7	−0.4	26.2	39.5	1.6
Retained profit	4.3	13.2	3.5	3.5	6.2	10.7	3.4	−0.4	11.1	3.6
Depreciation provisions	5.1	13.8	4.0	2.7	3.2	3.7	3.0	5.2	9.5	3.2
Changes in future tax reserves	−0.2	1.0	0.1	−2.3	−0.6	1.8	0.9	−0.2	—	−1.6
Other capital receipts, etc.	1.3	—	—	0.8	0.4	—	—	—	8.4	0.5
Total Sources of Funds	24.0	80.1	15.8	3.1	14.7	28.1	5.5	30.9	68.5	7.8
Use of Funds										
Gross expenditure on:										
tangible assets	10.0	37.9	8.5	2.2	5.0	4.4	5.6	21.4	23.2	4.3
intangible assets	—	0.1	—	—	—	—	—	—	—	—
trade investments	−0.1	—	—	0.2	0.3	0.1	−0.5	−0.2	—	0.1
Increase in value of stocks	7.6	11.9	3.4	−6.0	4.7	6.7	2.1	1.7	20.4	2.9
Change in debtors	6.2	24.2	2.6	6.9	5.4	7.9	−1.0	5.2	17.4	6.1
Other capital payments	—	—	—	—	0.1	—	—	—	6.2	—
Expenditure on Operating Assets	23.7	74.1	14.5	3.3	15.5	19.1	6.2	28.1	67.2	7.6
Change in Liquid Assets	0.3	6.0	1.3	−0.2	−0.8	9.0	−0.7	2.8	1.3	0.2
Total Uses of Funds	24.0	80.1	15.8	3.1	14.7	28.1	5.5	30.9	68.5	7.8

— Signifies nil or less than 0.1 per cent.

TABLE A V

Sources and Uses of Funds by Groups. Year ending March 31st, 1956

	Size Group				*Industry*					
	I	II	III	IV	E	M	C	P	S/O etc.	Cos.
Source of Funds				*Percentage of*	*net assets, 1956*					
Issued capital	0.9	−0.5	−0.2	2.1	0.2	—	−0.1	−0.8[1]	—	1.5
Changes in loans	0.3	24.4	−0.5	1.1	−1.6	2.5	3.7	−1.6	0.4	0.8
Changes in amounts due to trade creditors	4.8	31.8	1.0	−7.8	3.1	5.6	0.4	1.9	13.8	−4.9
Total Credit Received	5.5	58.2	1.0	−7.4	2.4	11.5	2.0	1.5	14.4	−4.3
Retained profits	8.3	−3.7	6.5	4.2	6.7	8.5	0.1	5.5	10.8	4.9
Depreciation provisions	4.9	19.4	3.9	2.8	2.4	3.0	3.5	6.4	8.4	3.3
Changes in future tax reserves ...	1.4	−2.8	1.1	0.8	1.6	1.1	−0.1	−0.5	—	0.9
Other capital receipts, etc. ...	—	—	—	0.4	1.3	—	—	—	2.5	0.3
Total Sources of Funds	21.0	70.6	12.3	2.9	14.6	24.1	5.4	12.1	36.1	6.0
Use of Funds										
Gross expenditure on:										
tangible assets	8.0	48.9	4.6	4.4	3.6	4.1	5.6	6.2	29.7	5.0
intangible assets	—	0.2	—	−0.2	—	—	—	—	—	−0.1
trade investments	—	—	−0.9	−0.9	−5.1	—	−0.3	−0.1	—	−0.8
Increase in value of stocks ...	2.9	9.1	1.6	3.9	−0.2	6.9	−0.6	1.7	8.8	−2.2
Change in debtors	6.9	18.4	6.2	2.4	13.0	4.4	1.6	4.8	8.8	3.6
Other capital payments	—	—	0.3	—	0.1	—	—	0.1	—	0.1
Expenditure on Operating Assets...	17.8	76.6	11.8	1.8	11.4	15.4	6.3	12.7	47.3	5.5
Change in Liquid Assets	3.2	−6.0	0.5	1.1	3.2	8.7	−0.9	−0.6	−11.2	1.1
Total Uses of Funds	21.0	70.6	12.3	2.9	14.6	24.1	5.4	12.1	36.1	6.6

[1] Due entirely to a reduction in long term liabilities.

— Signifies nil or less than 0.1 per cent.

APPENDIX B

NOTES ON ITEMS IN THE AGGREGATE ACCOUNTS

Most of the items in the accounts are self-explanatory and correspond to normal accounting definitions, but a few notes are appended here referring to items about which there may be some doubt.

Items are defined very similarly to the items in the N.I.E.S.R. analysis.[1] I am indebted to Mr. H. S. Dickinson for advice and help in the planning of the form of accounts, and to Mr. A. Egerton for practical help in analysis.

I. Balance Sheet Summary

Preference shares: include participating preference shares.

Provisions: refer in the main to provisions for deferred expenditure, other provisions being included in the item *trade creditors.*

Future tax reserves: refer to tax payments due in the fiscal year after the current balance sheet date.

Long term liabilities: this item includes debentures and minority interests (the proportion of share capital in subsidiaries owned by persons other than the parent company or group.)

Bank loans: include all overdrafts and loans from banks.

Other loans: are all loans which do not come under the heading of bank loans, directors' loans or long term liabilities. A loan from a Building Society would be classified thus.

Trade creditors, etc.: this refers to the trade creditors item as found on most company balance sheets. Certain other items, however, which may have been separately presented by some companies are added back in the standard form.

Trade debtors: are treated similarly.

Current taxation: essentially comprises all unpaid income and profits tax owed at the balance sheet date.

Tangible assets: generally this item represents the balance of original cost after depreciation (as stated by the firms). In one or two cases assets have been revalued to bring their value nearer to a current or replacement cost basis.

Intangible assets: are almost entirely goodwill, but in a few cases items such as preliminary expenses appeared on the balance sheet and were included here.

Trade investments: these are mostly as defined by the companies, and are treated by the companies as fixed assets. The item represents in effect 'investments by way of trade' (i.e. involving some element of direct participation in trading concerns).

The item is distinguished from *marketable securities*, held primarily as a means of allowing (often temporarily surplus) funds to earn an income whilst remaining readily accessible.

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[1] See *Company Income and Finance*, pp. 16–19.

It is not always possible to deduce such information from published accounts and occasionally arbitrary decisions had to be made.

Stocks and work in progress: are as valued by the firms.

II. APPROPRIATION OF INCOME

Trading profit: comprises *net sales* (*i.e.* net of discounts allowed) *less total costs.* Interest on long term liabilities has been treated as a cost.

Depreciation: is as stated by the firms. In many cases depreciation in the Profit and Loss account differs from that in the balance sheet.

Other income: comprises in the main income from property and investments.

Tax: represents profits and income tax calculated on current year's profits.

Dividends: are shown net of income tax.

Minority interests: where some of the shares of a subsidiary are held outside the group, holders of the shares receive a share of profit and dividend which is shown in this item.

Prior year adjustments: comprise such items as tax refunds, surplus on revaluation of assets, etc.

Derivation of other profit concepts is as shown in the appropriation account (Table AI, Part B, page 178).

III. SOURCES AND USES OF FUNDS

Capital issued: represents actual funds raised by such issues, and therefore excludes bonus issues, expenses of issue, etc. In principle any premiums would have to be added but in practice this did not apply to the firms analysed.

Increase in capital received: represents changes in corresponding items on the balance sheet.

Retained profit: corresponds exactly to the item on the appropriation account.

Depreciation: refers to the item as shown on the appropriation account.

Other capital receipts and profits: consist largely of unexplained changes in reserves, but other occasional receipts of a 'once-for-all' nature are included.

Gross expenditure on tangible fixed assets: includes depreciation as shown in the appropriation account. Allowance is made for sales of assets and revaluation where applicable.

Other capital payments: consist of unidentified items of expenditure of a capital nature.

Residual differences and adjustments: are a very small item, comprising any unidentified items which cannot be fitted into any other category (such items are in fact negligible); plus rounding adjustments.

Other uses of funds represent changes (adjusted where necessary) in corresponding items on the balance sheet.

Accounting years: refer to the fiscal year to which the balance sheet and appropriation account relate. Thus any firm whose accounting date was in the period April 1st, 1955 to March 31st, 1956, would be placed in the year ending March 31st, 1956.

THE
PURCHASING POWER OF THE SOVIET ROUBLE[1]

By A. Nove

The object of this paper is to calculate the purchasing power of the Soviet ' consumer rouble ' in terms of sterling. The author is by no means the first to utilise Soviet retail price quotations for comparisons with prices outside Russia, or with Russian prices at earlier dates.[2] However, hitherto there has been no up-to-date information on product weights, nor has there been an adequate basis for making allowances for free-market prices. The publication in 1956 of a statistical compendium, *Sovetskaya Torgovlya* (Soviet Trade) makes it possible to fill these gaps, at least approximately, and this is the justification for the present exercise—together with the fact that the author has been able to observe prices and qualities on the spot.

There is still no official information from Soviet sources on a worker's budget. Therefore, the first step must be to use the trade statistics to reconstruct the probable pattern of spending. This reconstruction should be confined to *urban* areas, since the Russian peasant still obtains only a relatively small proportion of his wants by purchases from the shops, so that the rural trade pattern can be of little value as a guide to what is actually consumed. Fortunately, the institutional arrangements of Soviet trade enable one to distinguish, albeit somewhat roughly, between trade in urban and rural areas.

Weighting procedure

Before explaining how the pattern of urban spending was calculated, it is necessary to describe briefly the organisation of Soviet retail trade, which naturally affects the way in which the Soviet statistics are presented.

(*a*) *State trade* covers sales by retail outlets owned and operated by state agencies. These are generally under the Ministry of Trade (more rarely under some specialised ministry—e.g. medicines may be sold by the Ministry of Health), but there are also appreciable sales by the so-called ' workers' supply departments ' of state enterprises.

(*b*) *Co-operative trade* is of three kinds:

(i) ' *Consumer-co-operatives,*' under an agency known as *Centrosoyuz*, are responsible for the bulk of retail outlets in rural areas.

(ii) Also under *Centrosoyuz* are *co-operative commission sales* of farm produce, on behalf of collective farms or peasants. These sales occur at prices which are commonly well above official level and almost entirely in towns.

(iii) Other co-operative sales consist mainly of the disposals by producers' co-operatives of products of their manufacture.

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[1] The author gratefully acknowledges the practical help and advice of J. A. Newth.

[2] For an annotated list of such analyses, see Appendix II.

TABLE I

THE VALUE OF A CONSUMERS' GOODS ROUBLE

Turnover figures in millions of roubles (1955)

Commodity	1 *State and Co-op trade including restaurants*	2 *Restaurants*	3 *Co-op (Tsentrosoyvz) including restaurants*	4 *Co-op commission sales*[1]	5 *Free market*	6 *Estimated urban sales*	7 *Weights (%)*	8 *Rouble value (pence)*	9 *Sterling value (Col. 6 x Col. 8) (£ mill)*	10 *Weights in U.K. prices (%)*
Meat	23,138	6,779	3,079	1,322	13,800	29,400	7.29	5	612	5.78
Fish	9,512	1,143	1,871	19	500[2]	7,300	1.81	5	152	1.44
Canned goods	6,405	1,116	986	0	0	4,200	1.04	4½	79	0.75
Butter	9,110	1,208	521	100	750	8,100	2.01	2½	84	0.79
Vegetable oils	5,412	607	1,590	254	750	4,100	1.02	3	51	0.48
Other fats	5,301	849	638	53	200[2]	4,000	0.99	2	33	0.31
Milk, milk products, cheese	7,984	1,888	587	202	2,900	8,400	2.08	5	175	1.65
Eggs	1,733	518	155	54	1,300	2,400	0.59	4	40	0.38
Sugar	20,893	1,384	3,814	0	0	15,900	3.94	1¾	116	1.10
Confectionery and pastries	21,107	3,882	6,196	0	0	11,500	2.85	2	96	0.91
Tea	2,471	141	1,244	0	0	1,100	0.27	5	23	0.22
Salt	783	35	466	0	0	300	0.07	17	21	0.20
Bread and rolls	41,184	4,565	8,239	0	0	29,000	7.19	11	1,329	12.56
Flour	10,726	1,261	5,570 }	798	2,400	11,500	2.85	6	288	2.72
Grain and pulses	5,655	669	1,082 }							
Macaroni products	3,793	476	595	0	0	2,800	0.69	8½	99	0.94
Potatoes	2,204	541	553	319	5,700	7,200	1.78	4	120	1.13
Vegetables	3,455	729	623	326	8,400	11,000	2.73	3	137	1.29
Fruit and melons	5,084	820	1,271	802	11,000	14,900	3.69	2½	155	1.47
Drinks	72,606	17,447	25,000[4]	152	400[2]	36,000	8.92	9½	1,425	13.47
Other food	9,316	2,425	2,017[4]	502	800[2]	6,600	1.64	4	110	1.04
Restaurant food sales	(7,462)[5]	(7,462)[5]	(1,399)[5]	0	0	43,400	10.76	8	1,447	13.68
TOTAL FOOD AND DRINK	275,334	55,945	67,496	4,903	48,900	259,500	64.31	6 (6.09)	6,592	62.30

Cotton fabrics	25,427	—	12,151	—	—	13,200	3.27	7	385	3.64
Wool fabrics	7,443	—	1,950	—	—	5,500	1.36	2	46	0.43
Silk and rayon fabrics	11,614	—	3,498	—	—	8,100	2.01	2	67	0.63
Linen fabrics	1,172	—	398	—	—	750	0.19	12	37	0.35
Clothing	39,382	—	9,507	—	—	29,800	7.39	3	373	3.53
Furs...	2,110	—	543	—	—	1,500	0.37	4	25	0.24
Headwear	1,982	—	678	—	—	1,300	0.32	5	27	0.25
Knitwear and stockings	13,900	—	3,664	—	—	10,200	2.53	4½	191	1.81
Leather footwear	15,265	—	4,222	—	—	11,000	2.73	3½	160	1.51
Other footwear	8,830	—	3,407	—	—	5,400	1.34	10	225	2.13
Soap and cosmetics	6,357	—	2,398	—	—	3,900	0.97	4½	73	0.69
Haberdashery, leather goods, thread ...	10,384	—	3,132	—	—	7,200	1.78	4	120	1.13
Tobacco and products	11,999	2,856	3,921	—	—	8,000	1.98	20	667	6.30
Matches	953	—	499	—	—	400	0.09	10	17	0.16
Paraffin	1,536	—	916	—	—	600	0.15	8	20	0.19
Furniture	6,850	—	1,815	—	—	5,000	1.24	6	125	1.18
Cooking utensils	5,182	—	2,754	—	—	2,400	0.59	12	120	1.13
China and glassware	1,888	—	809	—	—	1,000	0.25	5	21	0.20
Paper and office materials	2,751	—	775	—	—	1,500[6]	0.37	9	56	0.53
Newspapers and books	4,929	—	391	—	—	4,000[3]	0.99	14	233	2.20
Bicycles and motor-cycles	2,496	—	1,325	—	—	1,150	0.29	5½	26	0.25
Sports goods, toys, ' other cultural goods '	4,255	—	1,108	—	—	3,100	0.77	10	129	1.22
Radio and T.V.	2,785	—	808	—	—	1,900	0.47	10	79	0.75
Musical goods	1,210	—	388	—	—	800	0.20	30	100	0.95
Building materials incl. glass	9,051	—	6,180	—	—	2,000[6]	0.50	9	75	0.71
Other, non-food	26,878	—	10,066	—	—	14,200[6]	3.52	10	592	5.60
TOTAL, NON-FOOD	226,603	2,856	77,307	—	—	144,000	35.69	6½ (6.65)	3,989	37.70
TOTAL, ALL GOODS	501,937	58,801	144,799	4,903	48,900	403,500	100.00	6¼ (6.29)	10,581	100.0

For definition of items, etc., see pp. 188 and 192.

[1] Also included in column 3.

[2] Estimates, as these items were not separately specified.

[3] Allowance made for rural purchases in towns, e.g. large-scale postal subscriptions for newspapers and periodicals.

[4] Source gives ' drink ' and ' other food ' together.

[5] These figures represent the running costs and profits of restaurants.

[6] Downward allowance made for institutional purchases.

(*c*) *Free market sales* are made by individuals selling their own produce, or by collective farms disposing of their surpluses. Only sales in urban markets are included in the Soviet statistics. Prices are uncontrolled. Almost all such sales consist of farm produce.

Urban transactions, then, will consist more or less[1] of the sum of (*a*), (*b*) (ii) and (iii) and (*c*). One must also separate out the turnover of restaurants and canteens, since, as we shall see, they tend to be relatively cheaper than the retail prices of the foodstuffs consumed in them. The nature of the available statistics makes the following steps necessary:

Firstly. In column 1 of Table I we have the total value of *state and co-operative trade including restaurants*. Column 2 show the sales of commodities in restaurants of all kinds. Column 3 gives us all *Centrosoyuz co-operative sales*, including those in that organization's restaurants. This column also includes *co-operative commission sales*, and these are given separately in Column 4. Finally, *free-market sales* are given in Column 5, but only as rough approximations, because the detailed product breakdown is only available for 71 large towns, which may not be typical of the whole (the weighting applicable to these towns has been applied, *faute de mieux*, to the total urban free-market turnover).

Secondly, Column 3 is deducted from Column 1, to arrive at *urban turnover*. Then the estimated urban restaurant sales are also deducted (i.e. the larger part of Column 2, since *Centrosoyuz* restaurants had a total turnover of 12.9 milliard roubles, out of a total of 58.8, and the figures in the Table clearly imply that much of it is drink).[2]

Thirdly, Columns 4 and 5 are added, since they are part of urban turnover. Transactions recorded in these columns take place at prices well above those in state shops (more of this below).

Fourthly, in arriving at the estimated total of urban sales (excluding restaurants), which appears in Column 6, it is desirable to adjust downwards for so-called institutional purchases, i.e. for sales to offices, hospitals, schools, etc. in the retail network, including the free market. Fortunately, the biggest sales of this kind are made by the *Centrosoyuz* network (to collective farms) and so are in any case excluded from our calculations. In all but three cases it is thought to be sufficient merely to ' round down ' to the nearest convenient number in hundreds of millions of roubles. This is not strictly sufficient, but it should not upset the weighting unduly. However, in three cases, there are good reasons for a sizeable deduction; these are ' Paper and Office materials ', 'building materials' and 'Other, non-food.' In each case institutional purchases are thought to be more than usually important (' Other ' includes petrol, which collective-farm lorries are thought to buy in cities on occasion: it has also been noticed that some building materials are bought by representatives of farms in towns, while most stationers' shops sport a notice drawing attention to the fact that they supply offices). An arbitrary amount has also been allowed for villagers' subscriptions to newspapers, etc., which would inevitably be included with urban statistics.

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[1] Not quite. The Trade handbook, p. 21, shows total sales in rural areas, including restaurants, as 133,200 million roubles, whereas total *Centrosoyuz* co-operative sales, excluding commission trading, were worth 139,900 millions.

[2] For example, total sales of meat and sausages in *all* restaurants came to 6,779 million roubles. Total turnover of co-operative restaurants was about a quarter of those of the state, but the proportion is likely to have been smaller in the case of meat, if only because the share of drink in rural turnover is relatively larger. The total value of drinks bought in restaurants is arrived at by taking the difference between two tables, one showing turnover with and the other without restaurants.

Certain minor adjustments are rendered necessary by a few omissions in the Soviet tables. For example, the co-operative turnover statistics give ' drink ' and ' other food ' together, while market sales include no separate heading for fish, though fish appears quite commonly in markets. Rough estimates are made in these cases. It must be noted that sales in urban areas cannot be assumed to be identical with sales to the *urban population*. The many peasants who journey to urban markets buy goods to take back to their villages. Naturally, such purchases cannot be separately distinguished. Apart from bread, which peasants do often buy in towns, the bulk of peasant buying must consist of manufactured goods. Consequently, to this extent our table may somewhat overweight manufactures *vis-à-vis* foodstuffs. Also, many urban consumers own allotments, and therefore the recorded purchases must somewhat understate their consumption of foodstuffs.[1] No claim to any absolute ' correctness ' can be, or is, made, but it is thought that these weights are still a useful approximation. The purist may object to the use of 1955 trade statistics with 1956 price observations, but this would still seem better than 1937 weights; at the latter date, the share of bread in total state and co-operative sales was 17.7 per cent, against 8.3 per cent in 1955, a difference which must influence the result of any calculations. While some of the adjustments may seem arbitrary, the large items are reasonably firm, and the margin of error likely to have resulted from such adjustments should be reasonably small.

Price quotations

In order to arrive at a sterling value for Soviet consumers' goods, it is necessary to find comparable values in British and in Soviet prices, to devise a sterling-rouble ratio for each product. Soviet price quotations are derived largely from observation in the U.S.S.R. and from scattered price lists encountered in publications. In the case of foodstuffs, the official prices are generally prominently advertised in stores, the products are not too difficult to define and identify, and the disparity between official and free-market prices can be deduced from official statistics, as well as observed on the spot. The official statistics in question take the form of indices by quarters, for the years 1954 and 1955, based on sample surveys in 102 towns. These indices show considerable seasonal variation. To avoid unnecessary complication, seasonal prices of July will be used. The excess of co-operative-commission and free-market prices over official levels in the third quarter of 1955 is shown in Table II.

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[1] According to *Sovetskaya Torgovlya* No. 6/1956, p. 11, the urban populations obtained from its own private allotments the following amounts per capita in 1954: 44 kilograms of potatoes, 11 kilograms of vegetables, 27 litres of milk, 5 kilograms of meat and lard, etc.

Table II

Co-operative Commission and Free Market Prices
(State price=100)

Product	*Co-operative Commission*	*Market*
All goods	138	170
Flour, coarse	130	137
Flour, fine	154	183
Pulses	150	176
Potatoes	175	246
Vegetables	164	216
Fresh apples	203	274
Beef	149	177
Mutton	162	205
Pork	114	130
Milk	114	146
Butter	163	170
Vegetable oil	116	153
Eggs	137	176

Source: *Trade handbook*, pp. 133–134

The disparity between official and free prices reached a peak in 1955, because, in previous years, there were repeated reductions in state retail prices at a time when farm output was not appreciably expanding. By 1956, some market prices had fallen, the aggregate fall being officially put at 9 per cent. This is allowed for in the price calculations made in this paper, which relate to 1956. Official prices changed hardly at all between 1955 and 1956.

So far as manufactures are concerned, the element of purely subjective judgement is, unfortunately, rather substantial. This arises inevitably from the nature of many of the commodities. The precise English equivalent of a Russian radio, TV set, bicycle, dress, stockings, can hardly be defined in any very scientific manner, and is certainly not immediately apparent to any inexpert observer. The author being an inexpert observer, all he can do is to give as honestly as possible what seem to be equivalent prices. Errors there must be, but there is no conscious bias.

Since Soviet weights are used, it is thought right to adopt as a basis of comparison those commodities actually consumed in Russia even though no U.K. equivalent of the given type or quality may exist. Thus, the ' black bread ' of central Russia is taken to be comparable with the standard white loaf in England. Cheap Russian suits are assumed to be equal to the cheapest products of an English multiple tailor, though nothing quite like a cheap Russian suit is obtainable anywhere in this country. In general, Soviet quality is often inferior, and the Soviet consumer suffers from delays in service and from the non-availability of the product or type preferred at established prices. However, degrees of consumer dissatisfaction, impatience or annoyance are not susceptible of statistical measurement. We can only assert that there is evidence to show that these things are more common in Russia than in Great Britain. A formal expression of this tendency is the limitation on sales of most foodstuffs to any one consumer in state shops.

A notice limits purchases to half a kilo of sugar, 5 eggs, etc., per purchaser, thus compelling frequent visits to the crowded shops.

Detailed price comparisons are discussed in Appendix 1. Only the bare results, in terms of the rouble value in pence for each product, appear in the principal table. It will be seen that the value of a consumers' goods rouble works out at a little over 6¼d.

Some thoughts on the price pattern

One is struck by the immense ' spread ' of rouble values. In part this is due to fiscal policies of both Russia and Britain. Thus, ' basic ' bread is relatively cheap in Russia, and this stands out in the table, in that the ' exchange value ' of the bread rouble is much higher than that of any other foodstuff. This also explains why Russian peasants find it profitable to buy bread and feed it to animals, since the prices of animal produce make such activity pay handsomely, to the embarrassment of the authorities.[1] On the other hand, drink and tobacco are so heavily taxed in Great Britain that this causes a price ratio favourable to the Russians. In the case of drink, it must be added that the vodka-whisky ratio is very different to that of beer, and an ' English ' weight for beer would produce a lower rouble value than the one here adopted. Russians certainly prefer vodka to beer, which, taking into account the quality of their beer, is most understandable.

It is often thought that the Russian pattern of retail prices differs from ours primarily through the operation of turnover tax, which is said to ' tax necessities ' particularly heavily. The table does indeed show how very expensive necessities are in Russia. All basic foods except bread are dear, as are clothes and furniture. By contrast, many other manufactures, especially those made of metal and/or by the light engineering industry, are relatively very much cheaper. However, it would perhaps be wiser to see these price differentials as reflecting supply and demand conditions. Looked at from the angle of supply, the cause of the high prices of many necessities is failure to take effective steps to increase production. This is (or was) obvious in the case of farm produce, and in textiles the ' blame ' can be shared between inadequate investment in the industry and inadequate production or imports of the raw materials. Given the supplies available, tax policy becomes a consequence, and not a cause, of the present price ratios. Indeed, it may be argued that the Soviet authorities are not ruthless enough in carrying out a logical price-and-tax policy. For example, let us take three of the relatively most expensive items: sugar, butter and fruit. These were in fact very hard to obtain in many parts of the country, and on pure supply-and-demand, queue-elimination grounds, there were grounds for a price *increase*. A cut in turnover tax on these articles would merely have lengthened existing queues. By contrast, some items with the lowest rouble-penny ratios—e.g. cooking utensils, metal toys, non-leather footwear, electric lamps—are readily available at existing prices, and bear a relatively low rate of turnover tax. Such facts as these may provide a sound basis for criticising the government's invesment policy, or import restrictions, but hardly supports the view that the high price of necessities is ' due ' to turnover tax.

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[1] In July 1956, the Soviet government announced measures to forbid the purchase of bread for feeding livestock.

Some possible conclusions about the purchasing power of the rouble

So far, the entire discussion has concerned the purchase of goods. What about services? Unfortunately, data on these are inadequate. One of the biggest problems is that of rent. Controls have made the position in Great Britain chaotic enough, while in the U.S.S.R. the relatively low rents payable must somehow be adjusted for the woefully inadequate quantity and (often) quality of the available space. Other services show a great variety of price-ratios. For example, a rouble devoted to making a local telephone call is worth about 2s., but on the railways its value is nearer 7d. This lower figure would apply also to cinema seats and internal postage rates, while a ' haircut rouble ' is worth a great deal more—though visiting women have expressed themselves very critically about Russian permanent waves and styling. Repairs, dry-cleaning and similar services are apt to be expensive. Without any reliable information on relative weights, it is hard to put this and other information together. It is therefore proposed to take a drastic short cut, and assume that the services rouble averages out at around one shilling. The weight of services in total urban expenditure must be somewhere about 10 per cent (the Kaplan-Wainstein study referred to in the appendix took a slightly lower weight, but it may have omitted expenditures on services rendered by private persons, which are appreciable).

Allowing any reasonable margin of error, inherent in the short cut which has just been taken, it would seem that the purchasing power of the rouble is about 6¾d., giving an exchange rate of around 35 roubles to the pound. This relates, of course, to the roubles found in the pockets of citizens. It is not suggested that it is proper valuation for roubles of other kinds; for instance the exchange rate for machinery would certainly be far lower, perhaps 15–20 to the pound or even less.

What does this tell us about real wage rates? It appears from reliable Soviet sources that the all-round average of wage and salaries in the U.S.S.R. in 1956 must have been roughly 8,500 roubles per annum.[1] This includes managers and top bureaucrats, but also several million low-paid labourers in rural areas. It seems likely that a moderately-skilled worker in an average factory, and many a white-collar worker of the accountant or higher clerical officer type, would earn somewhere about this average, say 750 roubles per month. Very roughly, it would seem that a similar type of person might be earning £42–44 per month in Great Britain. Like all such generalizations, this one is wide open to criticism, since anyone familiar with wage rates in the two countries will think of numerous exceptions. For example, while wages are higher than this in engineering and coal mining in both countries, a Soviet railway engine driver is relatively much better off, unskilled auxiliary labourers very much worse off, than might be suggested by the above comparisons. Be this as it may, 750 roubles a month at 6¾d. per rouble is the equivalent of only about £20 15s., or shall we say £21. A comparable British wage-earner is likely to be receiving twice as much at least, probably more. This comparison gives the U.S.S.R. this benefit of every major doubt, and is, of course, based on Soviet weights. Taking quality and availability into account, the disparity is doubtless greater still.

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[1] In 1954, the average was 206 per cent of 1940 (according to the textbook *Politicheskaya Ekonimia*). In 1940 it was 4060 roubles per annum. The tendency since 1954 has been upwards, by roughly 2 to 3 per cent each year.

Before concluding that the Soviet standard of living is under half the British, two other factors must be taken into account.

The first of these concerns the number of earners per family. A considerably larger proportion of married women work in Russia. Then, owing to the housing shortage, more grown-up members of families stay with their parents when going out to work. For the same reason, pensioners often live with the younger generation, and indeed grandma commonly acts as baby-minder, thereby permitting the mother to go out to work. Such facts as these can be given no statistical precision.[1] None the less, they are bound to narrow the gap between the purchasing power of Russian and British families.

The second factor concerns taxes and receipts from the state budget. So far as taxes are concerned, if we assume a family with two children, the advantage is distinctly with the British. Income tax on 750 roubles a month is about 50 roubles, whereas such a British family earning £42 per month will pay hardly any tax. (A childless couple would be liable to more tax in England, but would be paying a 6 per cent 'childlessness tax' in Russia). The family with two children would be receiving 7s. 6d. allowance in Great Britain, but would have a small extra tax (0.5 per cent of income) to pay in Russia for having only two of them. This alone would balance the fact the Russian worker pays no social insurance contribution. The Russians seem to be the more generously treated in respect of sick pay and disability benefit, and the period of paid leave in occupations classed as unhealthy is longer than is generally the case here. Those who are fortunate enough to be given one of the limited number of places in rest homes and sanatoria also do fairly well. On the other hand, medical drugs are fairly expensive in Russia and have to be paid for (except by in-patients in hospitals). On balance, taking taxes and the 'social wage' together, there would seem to be no appreciable absolute advantage to either. However, since the money wage payments are so much smaller in Russia, the 'social wage' is relatively more important there.

Any more precise conclusion on living standards would seem to be rendered impossible by lack of necessary information, especially about the make up of Russian family budgets. Fortunately, the present statistical 'thaw' in the U.S.S.R. gives ground for hope that more material will be forthcoming.

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[1] *Vestnik Statistiki* No. 1 of 1957 has published the composition of 'sample-survey' workers' families. 48.1 per cent of the total were working, 5.4 per cent received pensions or stipends, and only 46.5 per cent were dependents. The 'sample' was 14,800 families, and one wonders how typical this can be.

Addendum

Since this was written, the following changes have occurred:

(*a*) Couples with children no longer pay small families tax.

(*b*) Prices of a few articles have been cut, including pork, TV sets, and poultry.

(*c*) Prices of vodka, wines, automobiles, motor cycles and carpets have been appreciably raised.

On balance, early in 1958, state retail prices are slightly higher than in 1956, but free market prices especially for meat and dairy produce, are somewhat lower. For these products the share of sales at official prices has risen.

London.

APPENDIX I

PRICE QUOTATIONS AND EQUIVALENTS

Notes. As far as possible, both Russian and British prices relate to July 1956. Where not otherwise indicated, the Russian price is official. Market prices are indicated by the letter (M). All food prices are per kilogram, except where otherwise specified.

Food

Meat

Beef 12.00; 21.00 (M), for poorish stewing variety, U.K. 7s. 0d. Mutton 13.00; 22.00 (M), quality very moderate, U.K. 7/0d. Pork 19.50; 23.00 (M), quality sometimes fair, U.K. 8s. 0d. Good meat dearer, e.g. steak in Moscow 30.00 (M). Frankfurter-type sausage, 16.50 (U.K. pork sausage 7s. 0d.). Salami-type sausage about 35.00 (U.K. 15s.). Ham and bacon dear and scarce. Estimated average weighted price 17.00, for fresh meat. Relative scarcity of meat in state shops compels abnormally large purchases of sausage (45 per cent of state sales). 1 *rouble* = 5*d.*

Fish

Types bought very different from U.K. Herrings (above 40 per cent of the total) sell at a variety of prices between 9.50 and 20.00, according to quality and origin. A coarse salt fish (*salaka*) costs only 4.00. A popular fresh-water fish (*sudak*) is sometimes obtainable at 9.50—10.00. Miscellaneous local fish on sale in many markets, widely differing prices. Average fish price likely to be around 11.00 or more. U.K. 4s. 6d. (cod). 1 *rouble* = 5*d.*

Canned and preserved goods

Assortment available far smaller in U.S.S.R. Small tins of cheaper fish (e.g. carp in sauce) cost about 5.80 (U.K. brisling, say 1s. 9d.). Large tin of *shproty* (sardine-like) cost 12.10; compare two tins of sardines in U.K., 3s. Soups are sold in jars with metal tops for about 4.00, may compare with U.K. cans at 1s. 6d. 1 *rouble* = 4½*d.*

Butter

28.00; 40.00 (M), U.K. 6s. 6d. 1 *rouble* = 2½*d.*

Vegetable oils and fats

Margarine, 14.00 and up, U.K. 4s. 3d. Sunflower and cottonseed oil sold for cooking at prices varying from 14.00 to 21.00 (highest is M). U.K. (cooking fat) 4s. 3d. 1 *rouble* = 3*d.*

Other fats

Lard costs 23.00; also up to 33.00 (M), U.K. 4s.—4s. 6d. 1 *rouble* = 2*d.*

Milk

Generally 2.20; 2.50 (M), U.K. 1s. 2d. 1 *rouble* = 6*d.*

Cheese

Prices varied from 22.00 to 39.00. Cream cheese (M) 20.00—25.00, U.K. Cheddar about 5s. 6d. 1 *rouble* = 2½*d.*

Eggs (prices for ten)

7.50; 12.00 (M). Small sizes. U.K. 3s. 1 *rouble* = 4*d.*

Sugar

Averages 10.00. Scarce. U.K. 1s. 6d. 1 *rouble* = 1¾*d.*

Confectionery and Pastries

Chocolate extremely dear (a U.K. 1s. bar would cost about 14.00). Moderate toffee is 3.00 per 100 grammes. U.K. equivalent at most 8d. Pastries also dear and of moderate quality. Ice cream is good and widely available (large cone costs 1.90, U.K. perhaps 8d.). *Say* 1 *rouble* = 2*d.*

Tea

70.00 and up. U.K. 13s. 6d. But Russians drink tea much weaker, from choice. As we consume tea, not tea-leaves, Soviet price is arbitrarily divided by two for purposes of comparison, so 1 *rouble* = 5*d.*

Salt

Cooking salt about 0.60, U.K. 10d. 1 *rouble* = 1*s*. 5*d*.

Bread

Cheapest bread is about 1.24—1.30 (rye). Grey and almost-white bread available at around 1.40 in the south, but white bread in Moscow is very dear, cheapest seen being 2.35; Vienna-type loaf is about 5.00. Big relative weight of cheapest bread consumed. U.K. white loaf about 1s. 5d. Difficult to adjust for Russian purchases of dearer bread. Rough estimate. 1 *rouble* = 11*d*.

Flour, pulses, etc.

Flour in U.S.S.R. bears extra tax to make it relatively dearer than bread. Wheat flour priced at 4.00; also 5.00 (M), U.K. 1s. 6d. Grain (wheat and rye) may often be bought at 2.00—3.00 (M). Semolina 5.50, U.K. 2s. 4d. Macaroni 3.70, U.K. 2s. 7d. Rice 7.90, 10—13.00 (M), U.K. 2s. 3d. Pearl barley 2.60; 3.00 (M.), U.K. 2s. 3d. Dried peas 3.00; 5.00 (M), U.K. (lentils) 2s. Rough average: Grain and Pulses, 1 *rouble* = 7½*d*. Flour, 1 *rouble* = 4½*d*. Macaroni and similar, 1 *rouble* = 8½*d*.

Potatoes

1.00; 2.00—2.50 (M), U.K. 6d. 1 *rouble* = 4*d*.

Vegetables

Highly seasonal prices in Russia, due to poor storage, worse transport arrangements, dreadful marketing. For same reasons, big geographic divergencies in availability. Late July prices: Cabbage, 1.50—2.00 (mostly M), U.K. 4½d. Carrots, 3.50 (M), U.K. 8½d. Onions, 3.00—4.00 (M), U.K. 1s. Beetroot, 0.90; 1.20 (M). Quality and availability patchy. *Say* 1 *rouble* = 3*d*.

Fruit, melons, cucumbers

Fruit almost unobtainable in July at any price, apart from berries: Lemons, 3.50 each, U.K. 3d. Strawberries (' flush ' price) 15.00, U.K. 6s. Apples when available 20.00 (M), U.K. about 2s. 6d. Prunes, 17.90, U.K. 4s. 0d. Small cucumbers, 3.00 each (M), U.K. about 8d. 1 *rouble=about* 2½*d*.

Drink

Size for size, vodka costs about as many roubles as whisky costs shillings. Very heavy weight of vodka in Russian drink purchases can be observed everywhere: Beer, small bottle, 3.00—3.50, U.K. equivalent 1s. 2d. Adequate Georgian wine, 20.00, U.K. (Burgundy) 6s. 6d. Minerals relatively cheaper. 1 *rouble* = *about* 9½*d*.

Other food

This includes coffee (40.00, U.K. 15s. 6d.), jam (6.00 and more per jar, U.K. 1s. 9d.), mushrooms, condiments, honey, etc. On a rough count. 1 *rouble* = 4*d.*

Restaurants and canteens

This must be regarded as a separate item owing to relative cheapness of meals compared to cost of ingredients. Quality of cooking will be passed over in silence.

Typical ' dining room ' (*stolovaya*) makes possible adequate three-course meal for 6.00, U.K. equivalent about 3s. 6d.

Factory canteens cheaper in both countries.

Trade statistics show that of the total turnover of all public feeding establishments, 30 per cent consists of drink; from observation this includes a fair amount of vodka. Allowing for this, 1 *rouble* = 8*d.*

Non Food

Cotton cloth

Cheapest cotton prints are around 6.50 per metre, of very poor quality. U.K. (better) equivalent is about 4s. 0d. Better cloths proportionately dearer in both countries. 1 *rouble = 7d., at most.*

Wool fabrics

Wool is scarce and dear, all-wool cloths command luxury prices. A modest wool-mixture blanket is apt to cost over 100.00 (U.K. 20s.). Mixture-cloth cheap suiting costs about 120.00 (U.K. say 25s.). Cheapest wool cloth of reasonable quality was 200.00; fairly good gaberdine is 306.00, U.K. 50s. while good imported worsted ranges up to 500.00 per metre, U.K. 45s.—65s. 1 *rouble = at most 2d.*

Silk and rayon fabrics

Good-quality silk dress fabrics cost 110.—125.00, U.K. say 17s. 6d. So-called 'rayon crepe-georgette' was 57.—62.00 per metre, U.K. 7s. 0d. 1 *rouble = at most 2d.*

Linen fabrics

Linen still widely used. Single bed sheet was about 70.00, U.K. 7s. 0d. 1 *rouble* = 1*s.*

Clothing

This is a very large class, and the very different exchange-rates for various materials make it hard to make any estimate without more information about weights of various items. The following sample prices illustrate the wide range:

		U.K.		
		£	s.	d.
Cotton print dress, moderate quality[1]	200.00	3	0	0
Rayon dress, more or less adequate	280.00	2	10	0
Crepe de chine dress, good	480.00	10	0	0
Cotton Housecoat	337.00	2	10	0
Wool (mixture) frock	475.00	2	17	6
Woman's winter overcoat, fur trimming, best quality	3500.00	20	0	0
Cheap shabby-looking winter overcoat	750.00	6	10	0
Man's autumn-weight overcoat	720.00	6	10	0
Man's suit, wool mixture, poor	700.00	8	0	0
Man's suit, all wool, fair	2000.00	20	0	0
Man's suit, summer-weight, linen	650.00	10	0	0
Poplin-type shirts, adequate	50.00	1	5	6

Underwear is relatively expensive and poor quality. Children's clothes are relatively cheaper in all types.

Reasonable average 1 *rouble* = 3*d.*

Furs

Soviet furs are surprisingly expensive and moderate in quality, in home market. Roughly 1 *rouble* = 4*d.*

Headwear

Man's felt hat costs 69.00, U.K. 25s. Straw hats at about 40.00, popular in summer. Fur caps (63.00 to 300.00) widely worn in winter. No equivalent. Women's hats very dear, but most women wear headscarves. Reasonable average 1 *rouble* = 5*d.*

Knitwear

Wool knitted articles scarce and very dear, e.g. cardigan at about 125.00, U.K. 30s.

Wool socks of adequate quality are about 11.00, same quality U.K. 4s. 0d. Women's ' capron ' stocking range from 14.00 to 30.00. Nylons at 6s. 11d. may perhaps compare with capron at 19.00. Capron petticoats about 100.00 (U.K. nylon say 28s.). 1 *rouble* = 4½*d.*

Leather footwear

Leather is dear. Adequate shoes (men's or women's) cost 200.00, U.K. 50s.

Allowance must be made for policy of cheaper shoes for children; thus boy's leather shoes at 85.00 (U.K. 27s.). 1 *rouble* = 3½*d.*

Other footwear

By contrast, non-leather footwear is much cheaper.

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[1] The Russian equivalent of our cheap chain-store dress was never seen on sale. Apparently Russian women buy cheap cloth and make it up themselves, or take it to a private dressmaker.

Poor goloshes can be bought for 18.00, canvas shoes on rubber soles for 27.00. Felt boots are much used in winter, cost about 140.00, and have no U.K. equivalent. On balance 1 *rouble* = 10*d.*

Soap and cosmetics

Cake of household soap costs 1.85, U.K. about 6d. Toilet soap, moderate quality, about 2.20, U.K. about 7d. Detergents still feebly developed. Lipstick costs about 4.50—6.00, U.K. (cheap) equivalent 2s. 0d. to 2s. 6d. 1 *rouble = about 4½d.*

Haberdashery and thread (including travel goods and handbags)

Cotton reel, 0.95, U.K. 6d. (thread is about a sixth of sales under this head). Pocket comb, 3.20 to 6.10, U.K. 6d. to 9d. Clothes brush 7.80, U.K. 3s. 0d. Fibre suitcase 90.00, U.K. about 30s. Woman's handbag, imitation leather, 37.00, U.K. 15s. Woman's handbag (real leather) 140.00, U.K. 45s. 1 *rouble = perhaps 4d.*

Tobacco and products

Most popular Soviet brand, Belomorkanal, cost 2.20 for 25. U.K. tipped cigarettes cost 3s. 3d. for 20, but even these have more tobacco. Allowing this, roughly 1 *rouble* = about 1s. 8d.

Matches

0.20, U.K. 2d. 1 *rouble* = 10*d.*

Paraffin

Still much used for urban cooking and rural lighting. 0.65 per litre, U.K. 2s. 3d. per gallon. 1 *rouble* = 8*d.*

Furniture

Soviet quality generally very poor. Prices vary, as some sold by co-operative workshops at uncontrolled prices. Rough unpainted wardrobes seen at 600—900.00, U.K. £12—£18. Well finished wardrobe might be as much as 1700—3000.00.[1] Metal bedstead, no mattress, can cost from 120 to 220.00, U.K. £2. Soft furnishings tend to be dear. Roughly, 1 *rouble* = 6d.

Cooking utensils

These appear to be good, cheap and abundant. Thus aluminium frying pan, quite large, costs 7.50—8.50, U.K. could be 7s. 6d.—8s. 6d. 1 *roubel* = 1s.

China and glass

Big variety of types and prices in both countries. Very roughly, 1 *rouble* = 5*d.*

Paper and office materials

Writing paper, 50 sheets, lined, 1.80 (U.K. say 1s. 3d.). School exercise books, about 20 pages, 0.40, U.K. 5d. Pencil 0.20; adequate fountain pen 17.50, say U.K. 12s. Box of 10 coloured pencils 9.00 (U.K. 3s. 6d.). Ink is of such bad quality that comparison is pointless. 1 *rouble* = 9*d.*

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[1] Cheaper wardrobes, and other furnishings, sometimes appear on official price lists, but are very hard to find in the shops.

Newspapers and books

Newspapers, 4 big pages 0.20. 6 page issues 0.30, U.K. 2d. New books *much* cheaper in U.S.S.R., 8.00 against 12s. 6d. Technical books even more so. However,,our paper-backed reprints at around 3s. compare favourably with their equivalents. 1 *rouble = perhaps 1s. 2d.*

Bicycles and motor cyclcs

Cheapest bicycle at around 450.00 is of very low quality. Adequate machine, corresponding to our £15 model, costs at least 650.00. Motor-cycles 350 cc, 4200.00 (U.K. £150). 1 *rouble* = 5½*d.*

Sports, goods toys, ' other cultural goods '

Big variety, relatively cheap, e.g. a football for 35.00, similar to an imported Pakistan one at 28s. Elaborate mechanical toys often surprisingly cheap. Soft toys less good and dearer. Cameras and photographic equipment quite good and cheap; for instance 'F.E.D.' costs 500.00 (U.K. about £15). Adquate roll film 5.80 (U.K. 3s. 6d.). 1 *rouble* = 10*d.*

Radio and Television

Quite good radio for 400.00, U.K. about £20. Cheaper varieties available. T.V., approximately 14 in. screen, 2400.00, U.K. £60. Record players (pick-ups) 250.00—350.00, U.K. £10—£13. 1 *rouble* = 10*d.*

Musical goods

Folk instruments cheap, e.g. balalaika from 40.00, accordeons 300 to 1000. L.P. records very cheap, 12 in. classical costs 7.90, light music dearer (U.K. L.P. about 39s.). 10 in. ordinary popular record is about 3.00, U.K. 5s. 6d. 1 *rouble = around 2s. 6d.*

Building materials and window glass

Big variety, availability very patchy. Tend to be fairly cheap when obtainable. Only roughest estimate can be made. 1 *rouble* = 9*d.*

Other non-food

This group includes various electrical domestic articles, which tend to be relatively cheap. Thus 60 watt bulb 1.30, U.K. 1s. 3d. Fairly good washing machine 2250.00, U.K. £90. Good refrigerator 2000.00; U.K. equivalent about £80. (Cheaper varieties available in both countries). Cheapest vacuum cleaner 425.00, U.K. £25. Electric iron 35.00, U.K. 45s. Electric kettle 76.50, U.K. 48s. 1 K.W. electric fire, small, 120.00, U.K. 30s.

Watches (if they belong here, and are not ' other cultural goods ') are relatively dearer. Thus an alarm clock would be about 30.—50.00, U.K. 20s.—25s., but cheapest pocket watch 180.00, U.K. 27s. Popular cheap wrist watch about 500.00, say U.K. £8.

Private cars sell moderately (in 1955 there were 46,000 cars sold retail in, towns, according to the Trade handbook). Pobeda sells at 16,000 roubles, equal to say the Austin A 50, £820. Long queue at this price.

Private petrol averages about 0.60 per litre, say 3.00 per gallon. A rough balance of such items suggests 1 *rouble* = 10*d.*

APPENDIX II

SOME OTHER CALCULATIONS

Among the most interesting and useful exercises in calculating the purchasing power of the rouble have been the following:

T. Schulz and P. Wiles in the Bulletin of the Oxford University Institute of Statistics, Sept.–Oct. 1952. The authors compared the cost of food in Moscow and in England, both according to a ' human needs ' diet and a labour camp diet sheet. This, and prices of clothing and household goods, were related to estimated earnings in the two countries. The general conclusions seem quite in line with those of the present paper, bearing in mind that some Russian prices have fallen, and nearly all British prices risen, since 1952.

A general comparison of Soviet and U.K. prices in 1952 also appeared in an article by Professor C. Madge in *Soviet Studies*.

Everyone in this field has had occasion to be grateful to Mrs. Janet Chapman for work on Soviet retail prices (*Review of Economics and Statistics*, May 1954). However she, like Jasny and Prokopowicz before her, were concerned primarily with drawing up an index of Soviet prices over time.

The most detailed and thorough American analysis is that of Norman M. Kaplan and Eleanor S. Wainstein, comparing U.S. and Soviet retail prices for 1950, published in the *Journal of Political Economy* in December 1956. This study used weights of 1937 for the U.S.S.R., though some experiments are attempted with estimated 1952 weights, which are, however, not specified in detail. This study is obviously most valuable, and the careful use of statistical methodology should serve as a model. There are, however, certain features of the study which, in my opinion, would tend to produce results which undervalue the rouble:

(*a*) The 1937 sub-weights of certain product categories seem out of line with the likely pattern of consumption. Thus in the case of meat, over two-thirds is alleged to be pork, much of it bacon and ham. Pork is the dearest meat in Russia by a considerable margin, none of it more so than bacon and ham; from observation, these last two items are rare luxuries.

(*b*) 1937 weights do give bread a high degree of relative importance—Mrs. Chapman calculated 16.8 per cent of total consumer expenditure. It is all the more important to take the right kind of bread. While in using American weights, there is some justification in basing the comparison on white bread, the Russians (at any rate in the centre and north) eat black bread. Yet in the paper in question, the *Russian* weight for bread, all 16.8 per cent of it, is attached to the Moscow (luxury) price of a white loaf. The object, of course, is to achieve ' product comparability ', yet surely this procedure is unjustified, being based solely on the statistically accidental fact that ' bread ' is assumed to be a homogeneous category (whereas, in the same table, ' meat ' happens to be divided into seven sub-items, each with different weights in the two countries). It is surely impossible to assert that the Russians spend 16.8 per cent of their income, about 30 per cent of their entire food bill, on an article—white bread—which they tend *not* to buy. Because white bread is so very much dearer than black, the effect of all this on the end-result of the calculation is appreciable.

(*c*) Tea is given a straight weight comparison, kilo for kilo. Yet for reasons of national taste and tradition, the Russians drink tea weak. Must this not be allowed for in finding the appropriate conversion ratio for tea? Otherwise one shudders to imagine what would happen in a comparison with China, where tea is even weaker.

(*d*) No allowance is made for restaurants and canteens, although in general they tend to be cheaper—relatively to both British and American eating-houses—than the comparable prices of the ingredients.

(*e*) The one factor working the other way is the virtual omission of all free-market prices. In 1950, they were not as different from official prices as they later became, but they certainly were much higher in the case of vegetables and fruit, where the official prices quoted represent a rarely available assortment, applicable to one or two ' flush ' months at best. There is also one possible misprint: tomatoes at 3.00 roubles per kilo are surely a dream.

For these reasons, it is thought that the calculation may undervalue the rouble as at 1950, though admittedly not by very much. In any case, the problems involved in all such comparisons are so numerous, that one feels justified in making another attempt at valuing the consumer rouble. In the process, no doubt there will be other different errors, of which criticism is invited.

Finally, one must mention a very thorough and valuable French study, the work of Eugène Zaleski, as yet unpublished, which its author very kindly allowed me to see. This arrived at the conclusion that a consumer rouble was worth 24.69 francs with French weights and 25.96 francs with Russian weights, in 1955. Since French prices were and are considerably above the British this would imply a somewhat lower valuation of the rouble than arrived at here. However this French study is at times open to criticism—for example the cheapest bread is given a Russian weight of only 3.45 per cent, against as much as 3 per cent for the dearer white bread. A relatively heavy weight is given to white flour, which is seriously over-priced at 6.00 roubles. If the study were amended at these points, there would be very little difference between our results.

THE ECONOMICS OF HOUSE-WORK

By Colin Clark

We must exclude from our reckoning of the national product, says Marshall, whose word is still law, the value of all services which people 'render to themselves, members of their families, and friends'. Of the services which he had in mind, house-work was clearly the most important. But he also had in mind the performance at home of services which are generally performed commercially, such as the cobbling of shoes and the baking of bread. The treatment of these latter services raises some still more interesting and complex problems. Let us begin by considering the case of house-work.

Theoretically, its exclusion from national product estimates cannot be defended. It raises the unanswerable paradox proposed by Professor Pigou, namely that if a number of unmarried men, employing paid house-keepers, decided to marry them, then the figures of national product, as we measure it, exclusive of unpaid house-work, would be reduced. Where a service (the use of a house is an example) is sometimes the subject of a monetary transaction but is sometimes received in virtue of the householder's ownership of the house, the usual procedure is to *include* in national product an estimate of the value of the use of the house or other service, whether the subject of a cash transaction or not, so long as the service is one which is *customarily* exchangeable for money. But by this criterion, house-work is regularly and customarily exchanged for money, and an attempt should have been made to include an estimate (' imputed value ') of the value of such services performed but not exchanged for money.

An alternative approach to Marshall's, proposed by De Fellner in Hungary, stood the problem on its head and reached a logical but unsatisfactory solution by proposing that all personal services, whether paid or unpaid, should be excluded from national product. This solution was adopted by Marxian statisticians and applied in all Eastern European countries. In the nineteenth century, some Scandinavian statisticians disagreed with Marshall's ruling, and Norway and Denmark made an attempt to include (at a very low valuation) an imputed value of unpaid house-work; but they did not persist in the attempt.

Marshall's exclusion, which his successors have all too readily followed, of (unpaid) house-work from the national product, must be considered therefore a purely practical expedient, without theoretical justification. The considerations in his mind probably were that (1) in the conditions of Victorian England, house-work was a fairly cheap service, and exclusion of unpaid house-work therefore would not introduce too serious an error into estimates of national product, and (2) that in any case it would be exceptionally difficult to find any measure by which a value could be imputed for the house-work which was not the subject of a money transaction.

The former consideration has certainly ceased to hold. House-work, as everyone knows, is an increasingly expensive service to purchase. In Victorian England, quite apart from the all-round lower levels of monetary remuneration, the price of domestic service relative to other goods and services was lower than it is now. Those days are gone, probably never to return; the evidence available indicates to us that the Victorian Age, even in comparison with the preceding century, was one of exceptionally *low* wages for women, which was probably a consequence of the placing of large additional supplies of female labour upon the labour market, a result of the rapid urbanization of hitherto rural population which was then taking place.

We now have, as a result of the large-scale development of welfare services by local authorities, accurate statistics of what it does cost to provide for the complete keep of adults and children, in homes and institutions. While adults can be maintained under these circumstances at a cost (excluding rent) of about £200 per head per year, the cost of providing for young children under the age of five is nearly twice that; and the difference clearly represents the additional house-work required for the care of young children. These figures should measure this fairly accurately, because local authorities are under a strong incentive not to spend more than they need, compatible with the health and welfare of the children.

The order of magnitude of the value of these services, which we have up to now excluded from all our estimates of national product, is found to be very much larger than is generally supposed. With money value of net national product (as at present recorded) of some £16 billion (thousand million) per year, the value of house-work, nearly all unpaid, should be reckoned, at present-day prices, at about £7 billion per year. This consideration will upset many of the ideas about national product which we have held hitherto; particularly, if we include this large additional item, we find the rate of growth of overall national product to have been much slower than we generally suppose.

Before we can use these statistics of cost of local authority welfare services to give us a value of house-work we must first exclude from them purchased goods and services. The statistics are compiled in such a way as to exclude cost of buildings, rent and capital charges, but it remains to exclude estimated expenditure on food, clothing, etc. For this purpose national per head averages are taken, and commodities are somewhat arbitrarily divided into five groups, whereby adult inmates of institutions are supposed to receive 80 per cent of the national average consumption of food and fuel, 60 per cent of clothing, and so on down the scale. Children eat less than adults, but it is assumed that the clothing and furniture provided for them are better than in adult institutions.

We can now set these allowances for purchased goods and services against the gross expenditures as recorded. It is interesting to notice that the costs of maintaining children appear to be higher in the larger institutions containing more than 30 children; while the costs for adults appear to be at a minimum in the institutions in the 30-50 inmates range.

TABLE I

Estimated component of purchased goods and services in consumption by institution inmates, 1953–4

Classes of consumption	*Estimated per head consumption by inmates as percentage of national per head consumption*	*Consumers' expenditure in U.K. per head of population 1953,* £	*Estimated expenditure per adult inmate* £	*Estimated expenditure per child inmate* £
Food, fuel and light, matches and cleansers	80	84[1]	67	55
Clothing	60	22	13	15
Furniture and durable household goods	40	15	6	8
Tobacco, recreational, chemists and other goods...	20	28	6	8
Drink, housing,[2] private motoring, travel, communications, entertainment, services	zero (or not applicable)	70	—	—
Expenditures 1953		219	92	86
Estimated for 1953–4			94	88

[1] Including income in kind not included elsewhere.

[2] The gross costs of institutions have been recorded exclusive of rent or loan charges, and so no entry for housing need be made here.

As a matter of interest costs of maintaining a prison inmate are also recorded, and are found to be considerably higher than the costs of maintaining a person of good character in an institution; while the costs of maintaining a Borstal inmate are out of all proportion.

In obtaining a figure for the imputation of value of house-work, only the minimum cost of maintaining adults or children in institutions is used, so if anything the conclusions are under-stated. The results, based on costs of 1953–4, are brought up to date to 1956. In Table III all figures of product, both of saleable national product and of house-work, are estimated at 1956 values. Had we used Victorian values we would have found house-work of less importance relative to paid national product; but even so, probably much more important than Marshall thought.

The global value of house-work at different dates is therefore measured by applying the coefficients computed in Table II to the numbers of the population aged under 5, 5 to 14, and 15 and over respectively.

In Table III, in order to take account of the overlap between our global estimate of the amount of house-work performed, and the amount of paid domestic service, we must begin by enumerating the amount of the latter, which value since 1938 has been estimated in official statistics. These figures refer to domestic service rendered direct to private households. We now have to make an addition for what is, in effect, the provision of regular[1]

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[1] Our criterion must be ' regularity ' i.e. we do not wish to cover the services of cafés or hotels in so far as they provide for the needs of travellers, or for recreation; but we do wish to take them into account in so far as they help to meet *regular* domestic requirements for some people.

TABLE II

Total and Service costs of persons in institutions, 1953–4

	All costs (before crediting income) excluding rent and loan charges per inmate £ per year	*Estimate of purchased goods and services included therein £ per year*	*Deduced value of services £ per year (minimum)*	*Do. at prices[1] of 1956*
From *Children's Services Statistics*				
Children under 5 (Nurseries) ...	385	88	297	330
Other children:				
In homes with less than 12 inmates	252	88	164	182
In homes with 12–30 inmates ...	254			
In homes with over 30 inmates	271			
From *Welfare Services Statistics*				
Adults in Residential (including Old Peoples') Homes				
In homes with less than 15 inmates	245	94	101	112
In homes with 15–30 inmates ...	202			
In homes with 30–50 inmates ...	195			
In homes with over 50 inmates	204			

Other costs per inmate 1953 (from *Report of Prison Commissioners*, 1954): Prisons, £257. Borstal, £379.

[1] Adjusted from 1953–4 by the 'Other services' index number of prices (*National Income and Expenditure*, 1957, p. 19).

domestic services through cafés, canteens, hotels, residential clubs and institutions and so forth. Only a very arbitrary allowance can be made for this factor, although we know that it is of increasing importance.

Paid house-work however, even if we include a generous allowance for the above factor in our present-day figures, has fallen in relative value from 7½ per cent of the money national product at the turn of the century to only a little over 1 per cent to-day. It is quite clear that an increasing proportion of all housework is now performed unpaid rather than paid.

We consider first the real national product, excluding domestic work, in relation to the numbers engaged in producing it. Since 1871 real product per person per year in this field has only risen by a little over 50 per cent, thought the rise is seen to be 87 per cent if we take into account reductions in working hours, and estimate product per man-hour. (The most substantial reduction in working hours took place just after World War I: real product per man-hour, which was about stationary between 1891 and 1911, did in fact rise substantially during the 1920's).

We may next estimate 'population available for paid or unpaid housework' by taking the total population aged 15–69 and deducting from it the paid labour force (excluding those engaged in paid domestic work).

This calculation makes a few short cuts. Some of the people between the ages of 15 and 69 are infirm and cannot do any work, housework or other: some members of the labour force are under 15 or over 70, and some house-

TABLE III

	1956	*1938*	*1929*	*1911*	*1891*	*1871*
Private domestic service rendered for pay, current value,[1] £ million	100	121	120	94	71	45
Do. including allowance for *regular* consumption of services in cafés, hotels, etc.	175	200	190	140	95	55
Do. as percentage of home-produced net national product, current values[2]	1.1	4.3	4.9	7.3	7.5	5.9
Net national product (excluding net income from abroad) £ billion at 1956 prices,[3] Great Britain	15.88	11.36	9.70	8.38	6.10	3.67
Do. excluding domestic services[4]	15.71	10.87	9.22	7.77	5.64	3.45
Numbers engaged in paid private domestic service, million	0.5	1.6	1.6	1.9	2.2	1.9
Do. including equivalent of café, hotel, etc. services	0.9	2.7	2.6	2.8	2.9	2.3
Rest of labour force, million	22.7	17.6	16.5	13.5	9.55	7.6
Do. less unemployed	22.4	15.8	15.3	13.2	9.25	7.5
Product excluding housework £ per head at 1956 prices	700	688	603	588	610	460
Value of housework including unpaid, Great Britain £ billion						
Children under 5 at £330 each	1.23	1.05	1.13	1.45	1.34	1.17
Children 5–14 at £182 each	1.33	1.27	1.35	1.49	1.37	1.07
Others at £112 each	4.45	4.01	3.81	3.17	2.40	1.86
Total	7.01	6.33[5]	6.29[6]	6.11	5.11	4.10
National product, including all housework. £ billion at 1956 prices	22.72	17.20	15.51	13.88	10.75	7.55
Average hours worked per year	2,300	2,318	2,265	2,732	2,726	2,823
Total population 15–69	35.0	33.6	32.1	27.0	20.6	15.9
Population available for paid or unpaid house-work (million) (above line less labour force) ...	12.3	16.0	15.6	13.5	11.0	8.3
Value of housework at 1956 prices per head of the above	570	396	403	453	465	494
National product, including all house-work, per head of population aged 15–69, £ per year at 1956 prices	649	511	483	514	522	475

[1] 1956 and 1938 from *National Income and Expenditure* 1957. 1929 assumed. 1911 from Bowley *The Division of the Product of Industry*. Earlier years deduced from product of the following index numbers (1911=100).

	1891	*1871*
Numbers of domestics	90	80
Average wages (Bowley)	90	75
Relative earnings of domestics ... ... (Layton *J.R.S.S.* 1908, p. 515)	94	80

[2] The above have all been calculated for United Kingdom whereas the figures below refer to Great Britain. It may be assumed however that the *percentage* will be the same for Great Britain as for U.K., the greater relative number of domestics in Ireland or Northern Ireland being offset by their lower wages.

[3] 1956 from *National Income and Expenditure*, reduced by 2½ per cent to exclude Northern Ireland. Carried back to 1948 from same source, then linked to 1938 by Professor Paish's figures. For earlier years see *Conditions of Economic Progress* 3rd Edition.

[4] Using percentages calculated above. [5] 1937 age distribution. [6] 1931 age distribution.

work is done by people of these ages: and much house-work is done by women (and some by men) who are also members of the labour force. Nevertheless, in view of the fact that we can only conveniently get populations classified by 5-year age groups, the figure of population aged 15 to 69, less labour force other than those engaged in paid domestic work, probably gives us the best estimate of the numbers available to do house-work.

The value of house-work done per head of the population ' available ' (as defined above) to perform it, certainly shows a remarkable trend, declining from 1871 to 1938, and then rising sharply, but attaining now a level only a little higher than that of 1871.

The fall between 1871 and 1918 was however only about proportional to the fall in the hours of workers in the paid labour force. If we assume that those engaged in house-work reduced their working hours in the same proportion as did the rest of the labour force, and that there was no change in the efficiency with which they worked, and no change in the amount of house-work done by those members of the family who had paid employment, we can approximately explain the observed results.

We must however call upon changes in one or more of these factors to explain the very different results obtained when we compare 1956 with 1938. There has probably been a great improvement in ' productivity ', shown not in any great increase in the amount of house-work done, which in fact only increased by about 10 per cent, but by the considerably reduced number of women who got it done, many women previously occupied only at home now having obtained paid employment.

The ' amount ' of housework done and the ' efficiency ' with which it is performed are concepts somewhat more artificial than in the usual meaning of these words. The ' amount ' of housework done is only measured, in effect, by changes in the age structure of the population, and ' efficiency ' after taking into account changes in the number going out to work. The situation which has developed in the last two decades *appears* to indicate that the amount of housework performed per woman engaged in it has improved; but we must be willing to listen to any evidence which indicates that some of the imputed housework is now in fact simply not being performed.

Some may say that they see a paradox analogous to Professor Pigou's paradox of a man marrying his housekeeper in that every time a baby is born it raises national income, in our calculation, by £330 per annum. However, while Professor Pigou's paradox refers to an unchanged amount of housework being performed under a changing title, in the case of the baby there is not the slightest doubt that, the moment the child is born, a great deal of additional work has to be done by someone.

There has probably been an increase in efficiency, due to better household equipment, little of which was available before 1938. But it is difficult to avoid the conclusion also that more hours are being devoted to work, and less leisure enjoyed, by many women, including those who now do paid work but have house-work to do as well. We should also take into account the probability that many women (and men) who have always gone out to work, now make a greater contribution than formerly to the house-work of the family, particularly when members of the family who used to do house-work only have now obtained paid work.

In comparing the present day with 1871, when we value the services performed for each child and adult at present-day levels, we should at first sight reduce our valuation, when we consider the much lower standards of hygiene which then prevailed and the less house-work therefore done on that account. Against this we must set the consideration that standards of dress, for all classes of the community except the extremely poor, were higher then. Also many services now performed commercially—bread-baking, dress-making, hair-cutting—were then generally performed as part of the routine of house-work. Laundry work however is in a different position. In 1871 it was probably mostly performed at home, a large amount was transferred to commercial laundries during subsequent decades, but now once again, with the advent of small washing machines, it has been transferred back to the home. The still more recent development of commercial launderettes may, however, have the effect of making much of this work a commercial service again. On the whole, it is probably best to leave the figures as they stand.

When we make a general comparison, adding together house-work and paid work, to get a truly inclusive figure of national product over the whole period, the results, as indicators of economic progress, are disappointing. The growth of exchangeable national product has not been matched by the increase in the product of house-work. We are now bringing up relatively far fewer children than our ancestors did.

Another aspect of the same truth is the proposition that, up to 1938, the decline in the relative number of children set free an increasing amount of woman-power, much of which was taken up in increased leisure in the home. During the last two decades, however, most of this released woman-power has been diverted to increasing the size of the paid labour force.

Finally, one cannot help noticing that, reckoned by this method, the value of housework represented 90 per cent. of the money national product in 1891, and actually exceeded the money national product in 1871. This is certainly striking, but not an inherently impossible result. It does not mean that, had all domestic work been paid in 1871, the value of these payments would then have exceeded the money national product; the *relative* remuneration of domestic work, as compared with other work, was much lower then than it is now. What it does mean can be explained by means of an (it is to be hoped not too artificial) illustration; had a group of wealthy visitors offered to pay the housework costs of every family in Great Britain in 1871, paying for them a rate of real wages equal to that earned by domestics and managers in institutions in 1956, then the real income so earned would have exceeded the entire real income earned in all other employment put together.

Oxford.

APPENDIX ON SOURCES AND METHODS

(to article in previous issue).[1]

1. *The estimates of changes in stocks*

The annual change shown for food stocks in each year is the estimated net change in stocks of the main food- and feeding-stuffs which are largely imported. The source and methods of valuation are described in the text.

The estimates for industrial materials and tobacco were almost all derived from figures published in the Annual Abstracts of Statistics, the Monthly Digests of Statistics, and the Annual Statements of Trade and Navigation. The items included are listed below. In most cases, the change in stocks was obtained as the difference between stocks as recorded at the ends of successive years, but where there was an important break in the series due to the exclusion of Government stocks a different method was adopted for the years including and following the break. This was to calculate stock changes as a residual of production plus imports less exports and less home consumption. This procedure was followed for crude rubber for all years, tin metal (from 1951), refined lead (from 1952), copper and slab zinc (from 1953), softwood and pyrites (from 1954). It was also followed for aluminium for all years, since no stocks figures are published. In using this method a comparison was made for earlier years (when Government stocks were included) of the results yielded by it and the change in recorded stocks. There are many reasons why no exact agreement is found, but for softwood there seemed to be a persistent bias in the difference, suggesting that the published estimates of consumption or deliveries were too small. To allow for this, a rough estimate of the omitted consumption was subtracted from the residual stock change in 1954 and 1955. Most materials were valued at the average value of the corresponding retained imports, but, for a few, other methods were used (Census of Production or average value of exports).

The industrial materials included in the various groups shown in Table 1 were as follows:

Non-ferrous metals: Copper, zinc concentrates, slab zinc, refined lead, tin ore, tin metal, aluminium.

Textile materials and hides and skins: Raw cotton, cotton waste, cotton linters, virgin wool, raw silk, imported jute goods, flax, hard hemps, woodpulp for rayon, cattle hides, calfskins, goatskins, sheepskins.

Other materials: Softwood (home and imported), hardwood (home and imported), pitwood, woodpulp for paper, round pulpwood, other pulpwood, straw for paper, rags, etc., esparto, waste paper, crude rubber, latex rubber, synthetic rubber, reclaimed rubber, sulphur (regular and for acid), pyrites, molasses.

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[1] M. FG. Scott "Changes in Stocks of Mainly Imported Goods in the United Kingdom." BULLETIN, Vol. 20, No. 1, February, 1958, pp. 53-64.

This Appendix was inadvertently omitted from the previous issue of the BULLETIN. We print it now with apologies to Mr. Scott.

2. *Relation to the estimates published in the Blue Book on National Income and Expenditure.*

The estimates of investment in stocks published in the Blue Books on National Income and Expenditure are analysed by the sector holding the stocks, and not by the kind of good held. The goods included in the present estimates may be held by any of a number of different sectors, agriculture and forestry, mining, manufacturing industry, import merchants, and Government trading departments. It is therefore not possible to identify these estimates with any particular parts of the Blue Book estimates.

We cannot expect any very close correspondence with the movements of total stocks in the Blue Book, since the stocks included here form such a small part of that total. At the end of 1948 the value of all the stocks included in the Blue Book amounted to some £5,400 millions, whereas the industrial materials and tobacco included in the present estimates were worth only about £350 millions and the food commodities (inclusive of grain stocks on farms) rather less than this amount. A scatter diagram relating the values of the physical change at 1948 prices of the Blue Book stocks and the stocks of mainly imported goods suggests a weak positive relationship.

3. *Sources used for Figures* 1 *and* 2

In Figure 1, the volume of the United States' imports was derived from the series published in the Survey of Current Business and its 1955 Biennial Supplement. The volume of United Kingdom imports was from estimates of the value of retained imports at 1948 prices made by the writer. The gifts of Canadian aircraft (£35 millions in 1953 and £7 millions in 1954) were excluded, as also were imports of silver bullion in the years 1953 to 1955 (they are excluded from the published figures before 1953). The United Kingdom's domestic product was derived from the index of the gross domestic product at 1948 factor cost published in the 1956 Blue Book on National Income and Expenditure, Table 13. The volume of United Kingdom imports adjusted for stocks was obtained by subtracting the estimated value of the physical change in stocks of mainly imported goods at 1948 prices from the estimates of retained imports at 1948 prices mentioned above.

In Figure 2, the United Kingdom's gold and dollar balance for the years 1946 to 1952 was obtained from Cmd. 8976 Table 21. For 1953 to 1955 it is simply the change in our gold and dollar reserves, and is given in Cmnd. 122 Table 1. The United Kingdom's current balance, including defence aid, is also from Cmnd. 122 Table 1. The series adjusted for stocks were obtained by adding to the previous series the estimates of the current values of the physical changes in stocks of mainly imported goods.

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